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28 NOVEMBER 1975

3.8.76
NASA CR-

147861

LMSC-D462467

new

**DESIGN, FABRICATION, AND TEST
OF A TRACE CONTAMINANT
CONTROL SYSTEM**

APPENDIXES A AND B

(NASA-CR-147861) DESIGN, FABRICATION, AND
TEST OF A TRACE CONTAMINANT CONTROL SYSTEM.
APPENDIXES A AND B (Lockheed Missiles and
Space Co.) 136 p HC \$6.00 CSCL 06K

N76-31909

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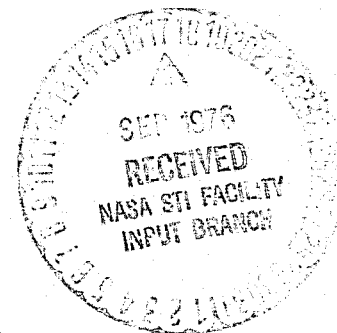
PREPARED UNDER

CONTRACT NO. NAS-1-11526

BIOTECHNOLOGY ORGANIZATION

LOCKHEED MISSILES & SPACE COMPANY, INC.

SUNNYVALE, CALIFORNIA



Appendix A

NONMETALLIC MATERIALS LIST

CREW SYSTEMS DIVISION SSP ETC LSS MATERIALS REVIEW BOARD
(CSD MRB)
NONMETALLIC MATERIALS MASTER LOG

PAGE 2 OF

| Trace Contaminant Control System | | ITEM NO. | | CSD MRB APPROVAL (CONCURRENCE) | | | | | | | | | |
|----------------------------------|------------------------|--------------------------------------|---|-------------------------------------|-------------------------|---------------------------|-------------------|------------|------------------------------|----------------|-------------|------|----------------------------|
| Electronics Package | | CSD SYSTEM MANAGER (FOR DISPOSITION) | | DISPOSITION | | | | | | | | | |
| CC-201 Through CC-211 | | | | | | | | | | | | | |
| LINE NO. | WAIIVER REQUEST NUMBER | MATERIAL GENERIC NAME | MANUFACTURER AND MATERIAL SPECIFICATION | MANUFACTURER'S MATERIAL DESIGNATION | INTENDED MATERIAL USAGE | USAGE CATEGORY CSD-SS-012 | USAGE ENVIRONMENT | WT. (lbs.) | EXF. AREA (IN ²) | BOARD DECISION | | | REMARKS OR RECOMMENDATIONS |
| | | | | | | | | | | ACPT. | COND. ACPT. | REJ. | |
| 1 | | Teflon | ~ | Tetra Fluoro Ethylene | Conductor Insulation | F | Cabin Air | <0.2 | <23 | | | | |
| 2 | | Epoxy Fibre Glass | Aurzet | Epoxy Fibre Glass | Circuit Boards | " | " " | <1.5 | <23 | | | | |
| 3 | | Nylon | Aurzet | Glass-Filled Nylon | Circuit Modules | " | " " | <0.5 | <100 | | | | |
| 4 | | Nylon | Aurzet | Glass-Filled Nylon | Connectors | " | " " | <0.2 | <25 | | | | |
| 5 | | Rubber | Deuteph | Silicon Rubber | Connector Inserts | " | " " | <0.2 | <10 | | | | |
| 6 | | Bakelite | Teledyne | Phenolic | Part of Relay | " | " " | <0.5 | <30 | | | | |
| 7 | | Paper | Simpson | Varnish Impregnated Paper | Part of Transformer | " | " " | <0.2 | <35 | | | | |
| 8 | | Fibre Board | Simpson | Phenolic Impregnated Paper | Part of Transformer | " | " " | <0.3 | <50 | | | | |
| 9 | | Epoxy | Sarkes-Tarzian | Epoxy Plastic | Rectifier Potting | " | " " | <0.1 | <6 | | | | |
| 10 | | Silicone | (Various) | Silicone Plastic | Integrated Circuits | " | " " | <0.2 | <30 | | | | |
| 11 | | Epoxy | Erie | Epoxy Coating | Capacitor Coating | " | " " | <0.01 | <5 | | | | |
| 12 | | Epoxy | (Various) | Epoxy Encapsulation | Resistor Construction | " | " " | <0.05 | <10 | | | | |
| 13 | | Phenolic | (Various) | Fibre Filled Phenolic | Resistor Casings | " | " " | <0.1 | <5 | | | | |
| 14 | | Plastic | Bourns | Diallyl Isophthalate | Trim-Pot Casing | " | " " | <0.05 | <6 | | | | |
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SEE COMMENTS IN CONDITIONS OF ACCEPTANCE

PAGE 2 OF

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PAGE 3 OF

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ALL CONTENTS OF CONDITIONS OF ACCEPTANCE

PAGE 4 OF 10

PAGE 4 OF

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MRB COMMENTS OR CONDITIONS OF ACCEPTANCE

A-6

PAGE 5 C

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CREW SYSTEMS DIVISION SSP ETC/LSS MATERIALS REVIEW BOARD
(CSD MRB)
NONMETALLIC MATERIALS MASTER LOG

PAGE 6 OF

| | | | | |
|---|--|--------------------------------|--------------------------------|----------|
| SUBSYSTEM Trace Contaminant Control System | | DATE | CSD MRB APPROVAL (CONCURRENCE) | |
| COMMENT 1" Isolation Value | | ITEM NO. CRV 1&CRV 2 | REQUESTING ORGANIZATION | |
| DRAWING NO. Vendor Part No. VID 10237-01 | | SUBSYSTEM WEIGHT (GK DESIGNER) | | CHAIRMAN |

| LINE NO | WAIVER REQUEST NUMBER | MATERIAL GENERIC NAME | MANUFACTURER AND MATERIAL SPECIFICATION | MAN. FACT. REP'S MATERIAL DESIGNATION | INTENDED MATERIAL USAGE | USAGE CATEGORY CSD-SS-012 | USAGE ENVIRONMENT | WT. (LBS.) | EXP. AREA (IN ²) | BOARD DECISION | | | REMARKS OR RECOMMENDATIONS |
|---------|-----------------------|-----------------------|---|---------------------------------------|-------------------------|---------------------------|-------------------|------------|------------------------------|----------------|-------------|------|----------------------------|
| | | | | | | | | | | ACPT. | COND. ACPT. | REJ. | |
| 1 | | Viton | L180-012 | Viton A | "O" ring | F | Cabin Air | <0.1 | <1.0 | | | | |
| 2 | | Viton | L180-032 | Viton A | "O" ring | " | " " | <0.1 | <1.0 | | | | |
| 3 | | Viton | L180-024 | Viton A | "O" ring | " | " " | <0.1 | <1.0 | | | | |
| 4 | | Teflon | L7770-A | Teflon | Coil Gasket | " | " " | <0.1 | <1.0 | | | | |
| 5 | | Nylon | 14634-13 | Nylon | Plug | " | " " | <0.1 | <1.0 | | | | |
| 6 | | Micarta | V3B10010-01 | Micarta | Push Rod | " | " " | <0.1 | <1.0 | | | | |
| 7 | | Kel F | V2B10239-KA | Kel F | Fiber Pellet | " | " " | <0.1 | <1.0 | | | | |
| 8 | | Viton A | V2B10790-VA | Viton A | Seat | " | " " | <0.1 | <1.0 | | | | |
| 9 | | Teflon | - | Teflon | Insulation | " | " " | <0.1 | <1.0 | | | | |
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MRB COMMENTS OR CONDITIONS OF ACCEPTANCE

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CREW SYSTEMS DIVISION SSP ETC LSS MATERIALS REVIEW BOARD
(CSD WRS)
NONMETALLIC MATERIALS MASTER LOG

PAGE 9 OF

| SUBSYSTEM | | DATE | | CSD WRS APPROVAL (Concurrence) | | | | | | | | | |
|----------------------------------|-----------------------|----------------------------------|---|-------------------------------------|-------------------------|---------------------------|-------------------|------------|------------------------------|----------------|-------------|------|------------------------------|
| Trace Contaminant Control System | | | | | | | | | | | | | |
| ITEM NO. | | REQUESTING ORGANIZATION | | | | | | | | | | | |
| Fixed Bed Fan | | F-1 | | | | | | | | | | | |
| VENDOR NO. | | SUBSYSTEM MANAGER (CSD DIVISION) | | CHAIRMAN | | | | | | | | | |
| Vendor Part No. M3192A-1A | | | | | | | | | | | | | |
| LINE NO. | WAIVER REQUEST NUMBER | MATERIAL GENERIC NAME | MANUFACTURER AND MATERIAL SPECIFICATION | MANUFACTURER'S MATERIAL DESIGNATION | INTENDED MATERIAL USAGE | USAGE CATEGORY CSD-SS-012 | USAGE ENVIRONMENT | WT. (LBS.) | EXP. AREA (IN ²) | BOARD DECISION | | | REMARKS OR RECOMMENDATIONS |
| | | | | | | | | | | ACPT. | COND. ACPT. | REJ. | |
| 1 | | Nylon | K754G-2A | Nylon Insert | Screw Cap | F | Cabin Air | <0.01 | <0.1 | | | | |
| 2 | | Synthetic Rubber | MS35489-4 | Neoprene | Grommet | " | " " | <0.01 | <0.1 | | | | |
| 3 | | Fiberglass | MIL-W-16878 | Polyester Arcylic Coated Fiberglass | Electrical Insulation | " | " " | <0.01 | <0.1 | | | | Covered with Teflon Sleeving |
| 4 | | Neoprene | MS23-3-5A | Neoprene Rubbercraft 2 | Grommet | " | " " | <0.01 | <0.1 | | | | |
| 5 | | Nylon | K378-3 | Nylon Weckesserlo | Clamp | " | " " | <0.01 | <0.1 | | | | |
| 6 | | Grease | MIL-G-2278 | Beacon 325 Grease | Bearing Lubricant | " | " " | <0.01 | <0.1 | | | | |
| 7 | | Nylon | K7046-2 | Nylon Insert | Screw, Self Lock | " | " " | <0.01 | <0.1 | | | | |
| 8 | | Varnish | MS377-3 | General Electric 1201 Glyptal | Insulating Finish | " | " " | <0.01 | <0.1 | | | | |
| 9 | | Fiberglass | MIL-P-18177 | Epoxy Laminated Fiberglass Nema G10 | Wedge Winding | " | " " | <0.01 | <0.1 | | | | |
| 10 | | Fiberglass | MIL-P-18177 | Epoxy Laminated Fiberglass Nema G10 | Stator Lamination | " | " " | <0.01 | <1.0 | | | | |
| 11 | | Silicone | Ben Har 1258-2 | Silicone Rubber Bently Harris | Insulation Sleeving | " | " " | <0.01 | <1.0 | | | | |
| 12 | | Polyester | MS388-13 | Polyester Film Mining Co. No. 56 | Insulating Tape | " | " " | <0.01 | <1.0 | | | | |
| 13 | | Teflon | MS552-5 | Teflon Film Mining Type A | Insulating Tape | " | " " | <0.01 | <1.0 | | | | |
| 14 | | Varnish | MIL-I-24092 | Thermo F Modified Polyester | Insulating Varnish | " | " " | <0.01 | <1.0 | | | | |
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SEE COMMENTS OR CONDITIONS OF ACCEPTANCE

CREW SYSTEMS DIVISION SSP ETC/LSS MATERIALS REVIEW BOARD
(CSD/WRB)
NONMETALLIC MATERIALS MASTER LOG

PAGE 10 OF

| SUBSYSTEM | | DATE | | CSD WRB APPROVAL (Concurrence) | | | | | | | | | |
|----------------------------------|--------------------|-----------------------------------|---|-------------------------------------|-------------------------|---------------------------|-------------------|------------|------------------------------|----------------|-------------|------|------------------------------|
| Trace Contaminant Control System | | | | | | | | | | | | | |
| ITEM NO. | | RECEIVING ORGANIZATION | | | | | | | | | | | |
| F2 | | | | | | | | | | | | | |
| Vendor Part No. C050K | | SUBSYSTEM MATERIAL (CSD DESIGNER) | | CHARTERED | | | | | | | | | |
| LINE NO. | REQUISITION NUMBER | MATERIAL GENERIC NAME | MANUFACTURER AND MATERIAL SPECIFICATION | MANUFACTURER'S MATERIAL DESIGNATION | INTENDED MATERIAL USAGE | USAGE CATEGORY CSD-SS-012 | USAGE ENVIRONMENT | WT. (LBS.) | EXP. AREA (IN ²) | BOARD DECISION | | | REMARKS OR RECOMMENDATIONS |
| | | | | | | | | | | ACPT. | COND. ACPT. | REF. | |
| 1 | | Nylon | K806G-4-2 | Nylon Insert | Set Screw | E | Cabin Air | <0.01 | <0.1 | | | | |
| 2 | | Fiberglass | MIL-W-16873 | Polyester Acrylic Coated Fiberglass | Electrical Insulation | " | " " | <0.01 | <0.1 | | | | Covered with Teflon sleeving |
| 3 | | Grease | MIL-G-3273 | Beacon 325 Grease | Bearing Lubricant | " | " " | <0.01 | <0.1 | | | | |
| 4 | | Neoprene | K323-3-5A | Neoprene Rubbercraft No. 2 | Grommet | " | " " | <0.01 | <0.1 | | | | |
| 5 | | Nylon | K378-3 | Nylon Weckesser Co. Inc. | Clamp | " | " " | <0.01 | <0.1 | | | | |
| 6 | | Nylon | K7046-2 | Nylon Insert | Setscrew | " | " " | <0.01 | <0.1 | | | | |
| 7 | | Varnish | KR377-3 | General Electric 1201 Glyptol | Insulating Finish | " | " " | <0.01 | <1.0 | | | | |
| 8 | | Fiberglass | MIL-P-18177 | Laminated Fiberglass Nema G10 | Winding Wedge | " | " " | <0.01 | <1.0 | | | | |
| 9 | | Fiberglass | MIL-P-18177 | Laminated Fiberglass Nema G10 | Stator Lamination | " | " " | <0.01 | <1.0 | | | | |
| 10 | | Polyester | KR388-12 | Polyester Film Minn Mining No. 56 | Insulating Tape | " | " " | <0.01 | <0.1 | | | | |
| 11 | | Teflon | KR552-2 | Teflon Film Minn Mining Type A | Insulating Tape | " | " " | <0.01 | <0.1 | | | | |
| 12 | | Varnish | MIL-I-24092 | U83 S Thermo F Modified Polyester | Insulating Varnish | " | " " | <0.01 | <0.1 | | | | |
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WRB COMMENTS OR CONDITIONS OF ACCEPTANCE

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VRB COMMENTS OR CONDITIONS OF ACCEPTANCE

PAGE 14 OF

A-16

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Appendix B

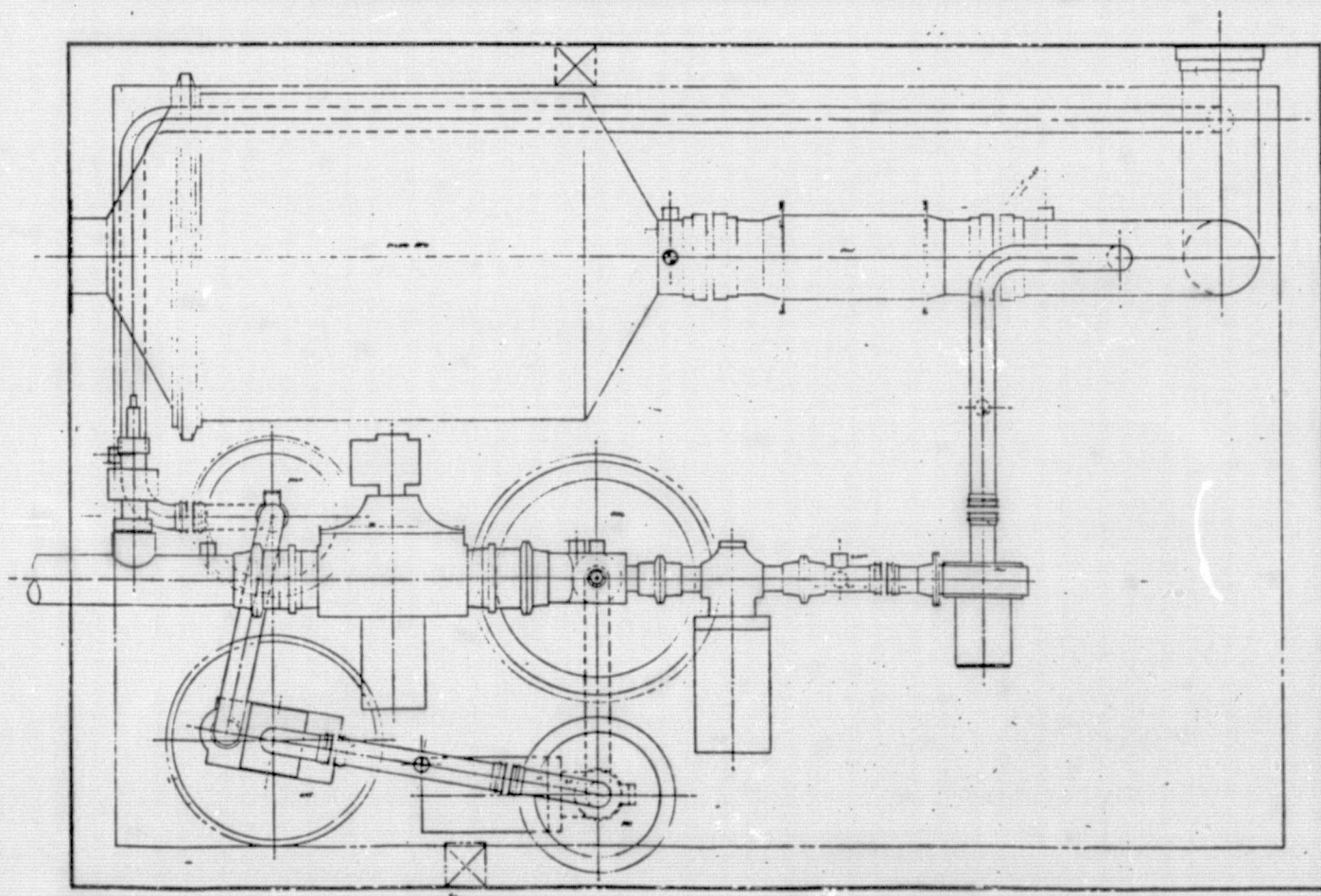
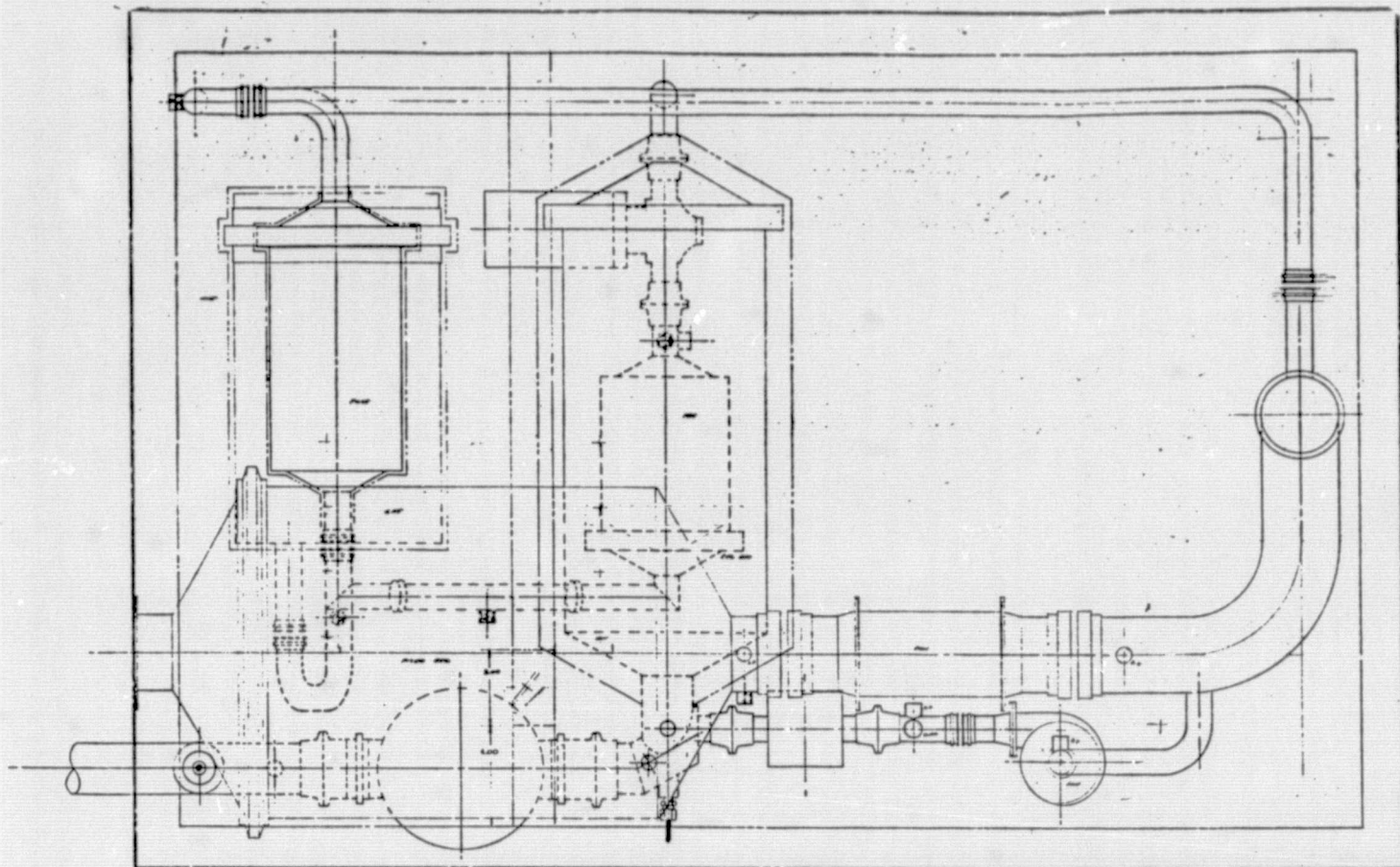
TRACE CONTAMINANT CONTROL SYSTEM
ENGINEERING DRAWINGS

Trace Contaminant Control System Engineering Drawings

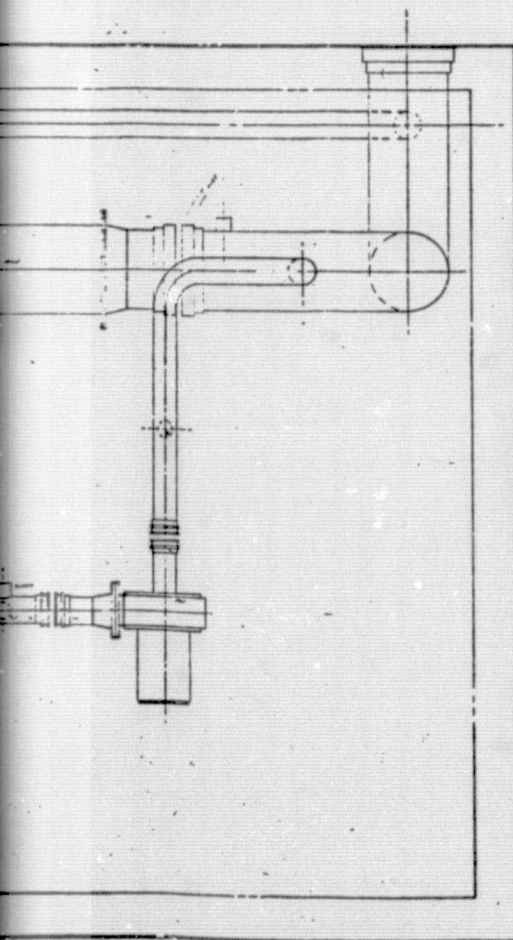
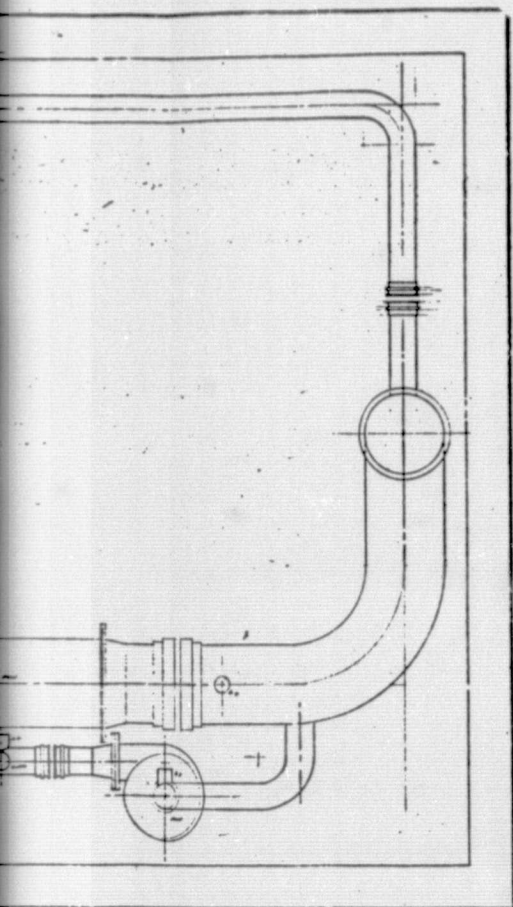
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|-----------------|-------------|---|--------------------------|-------------|
| CC-100 | | TCCS Layout | 1 | J |
| CC-101 | D | Heat Exchanger Assy. IHCO | 1 | E |
| CC-102 | | Brazed Assy - Catalyst Bed | 1 | E |
| CC-103 | A | Catalytic Oxidizer Case | 1 | E |
| CC-104 | A | Brazed End Plate Assy. | 1 | D |
| CC-105 | B | Washers | 1 | C |
| CC-106 | A | Spring, Heater | 1 | C |
| CC-107 | C | Heater Electric | 1 | D |
| CC-108 | A | Catalyst Retainer | 1 | D |
| CC-109 | A | Positioner, Heater | 1 | C |
| CC-110 | | Thermal Insulation IHCO | 1 | E |
| CC-111 | B | Pre- and Post-Sorbent Canister | 3 | E |
| CC-112 | A | Sol. Valve - 1 inch D.C.D. | 1 | D |
| CC-113 | | Regenerable Bed Canister | 3 | E |
| CC-114 | B | Regenerable Bed Blower B.C.D. | 1 | A |
| CC-115 | A | Fixed Bed Fan B.C.D. | 1 | B |
| CC-116 | | Thermocouple Assy. - Regen. Bed | 1 | C |
| CC-117 | | Canister, Fixed Bed | 2 | E |
| CC-118 | B | Frame | 1 | R |
| CC-119 | | Duct, Pre-Sorbent to Cat. Ox. | 1 | C |
| CC-120 | B | Duct, Cat. Oxy to Post-Sorb. | 1 | D |
| CC-121 | | Threaded Flange (for 2" valve) | 1 | C |
| CC-122 | A | Duct, Blower-to-Valve | 1 | C |
| CC-123 | | Duct, Post-Sorbent Exit | 1 | E |
| CC-124 | B | Duct, Delivery | 1 | E |
| CC-125 | A | Web-Brkt, TCCS Component Mtg. | 1 | D |
| CC-126 | | Cradle Assy - Component Support TCCS | 1 | D |
| CC-127 | | Brkt - Equip. Mtg. | 1 | D |

Trace Contaminant Control System Engineering Drawings (continued)

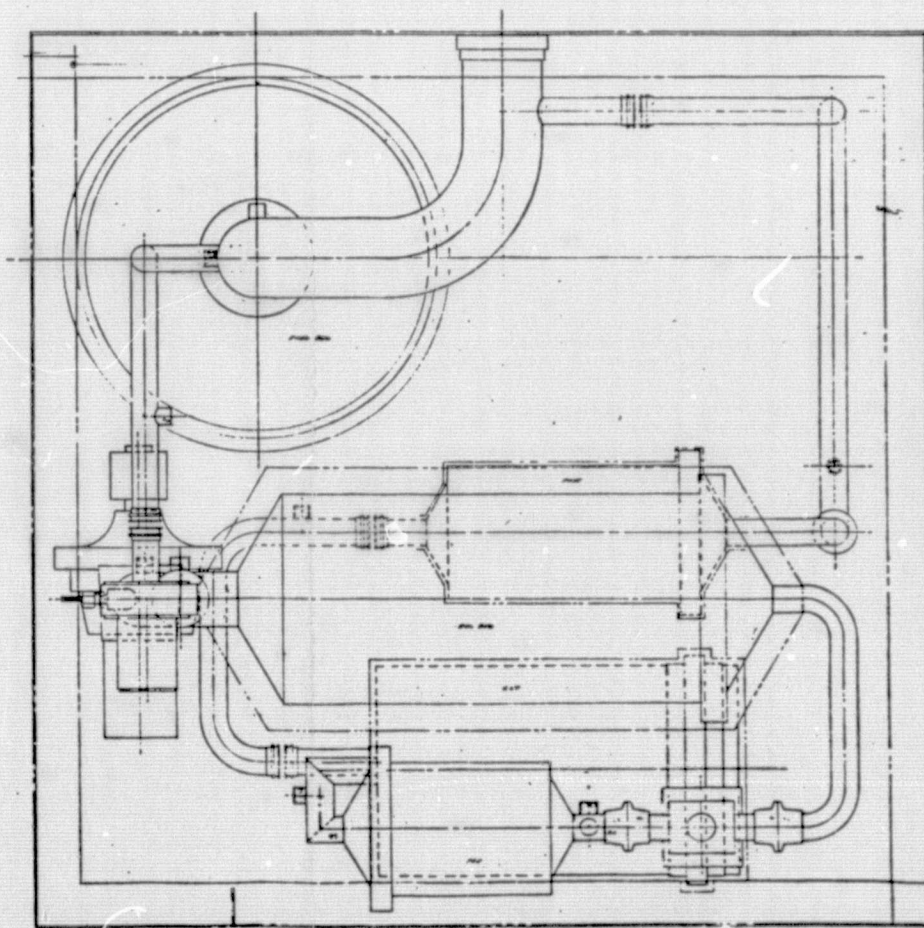
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| CC-128 | | Brkt Assy. - Canister Mtg. - TCCS | 1 | E |
| CC-129 | A | Cover Panels | 1 | E |
| CC-130 | | Brkt - Mtg., Fixed Bed | 1 | E |
| CC-131 | | Shelf, Electronics | 1 | D |
| CC-132 | | Duct, Vacuum to Valve | 1 | D |
| CC-133 | | Brkt Assy - Vac. Valve | 1 | E |
| CC-134 | | Brkt, Blower Sol. Valve | 1 | E |
| CC-135 | | Brkt, Pre-Sorb. Sol. Valve | 1 | D |
| CC-136 | | Brkt, Delivery Duct | 1 | E |
| CC-137 | | Brkt, Blower | 1 | D |
| CC-201 | | TCCS Cable Layout | 1 | D |
| CC-202 | | TCCS Controller | 2 | D |
| CC-203 | | TCCS Power Supply Monitor Circuits | 1 | D |
| CC-204 | | TCCS Over-Current Over Temp Shutdown Circuits | 1 | D |
| CC-205 | | TCCS ΔP Circuits | 1 | D |
| CC-206 | | TCCS Vacuum Sensor Circuits | 1 | D |
| CC-207 | | TCCS Temperature Circuits | 1 | D |
| CC-208 | | TCCS Relay Assembly | 1 | D |
| CC-209 | | TCCS Control Panel Circuits | 1 | D |
| CC-210 | | TCCS Clock Monitor & Reset Circuits | 1 | D |
| CC-211 | | TCCS Control Panel | 1 | D |



FOLDOUT FRAME /

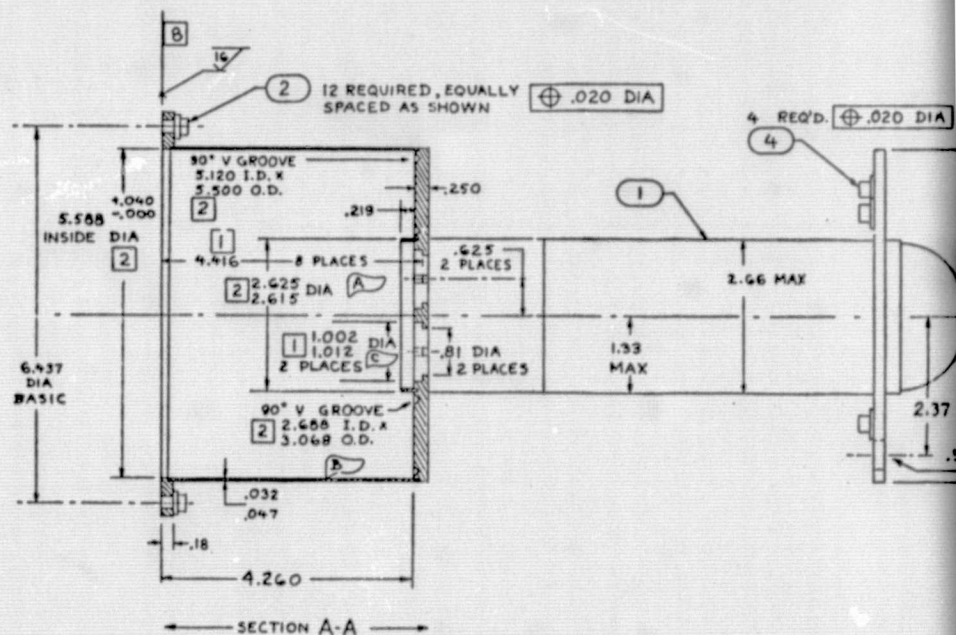
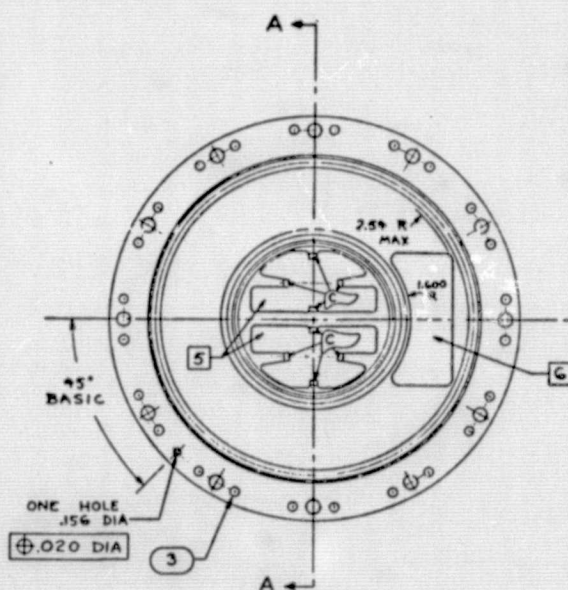


CC-100 TCCS LAYOUT



B-5

FOLDOUT FRAME 2



NOTES

- 1 APPLY .003 TO .006 COATING OF ALUMINUM OXIDE PF7 AMS 2436 TO SURFACES MARKED C. DIMENSIONS APPLY AFTER COATING APPLIED.
- 2 THESE DIAMETERS MUST BE CONCENTRIC WITHIN .020 TIR.
- 3 THIS HEAT EXCHANGER ASS'Y. MUST MEET PERFORMANCE REQUIREMENTS LISTED SEPARATELY.
- 4 MATERIALS & COMPATIBLE WELDING OR BRAZING METHODS ARE TO BE SELECTED TO WITHSTAND THE FOLLOWING TEMPERATURES: 1000 °F MAX AT B.

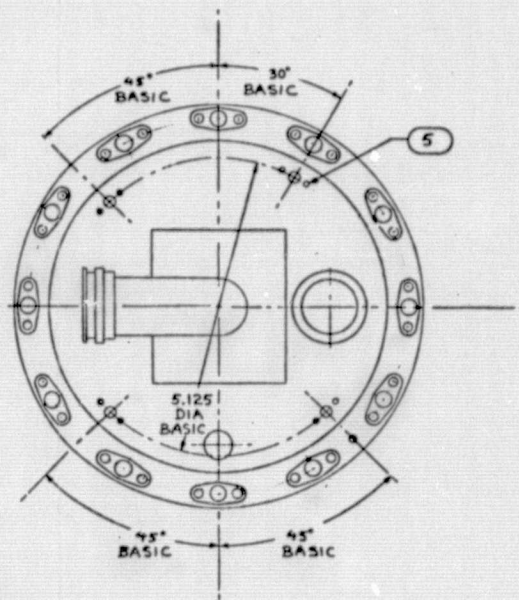
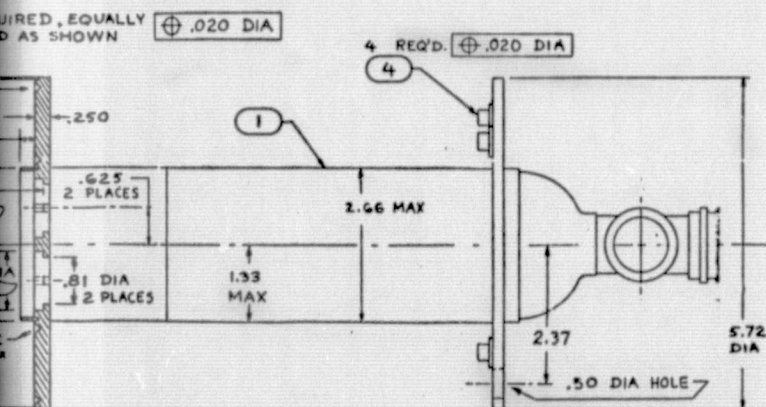
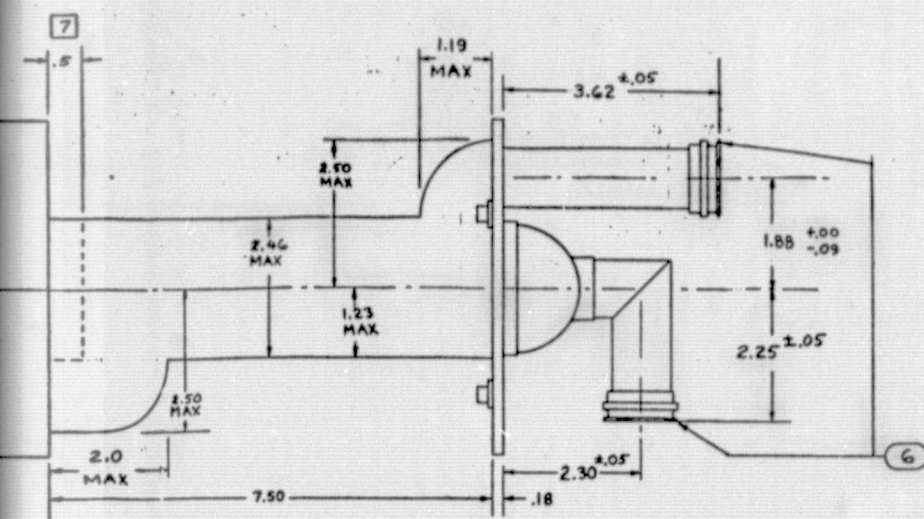
| TEMP. EXCURSION AT A (F°) | NO. OF CYCLES | EXCURSION TIME (HOURS) |
|---------------------------|---------------|------------------------|
| 700 → 1500 | 2 | — |
| 1200 → 1200 | 700 | 1 |
| 700 → 700 | 700 | 4 |
| 70 → 1200 | 20 | 2 |
| 1200 → 70 | 20 | 10 |

* TEMPS. REMAIN AT THE EXCURSION LIMIT TEMPS. FOR LONGER PERIODS.

- 5 OPEN AREA APPROX. 2 × 1.62 × 3.24 SQUARE INCHES.
- 6 OPEN AREA APPROX. = 1.90 SQUARE INCHES.
- 7 NO CORE IN THIS AREA.
- 8 WAVINESS MUST BE LESS THAN .0005 PER 2 INCHES OF CIRCUMFERENCE, OR .002 T.I.R. AROUND ENTIRE CIRCUMFERENCE.

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-NOTES-

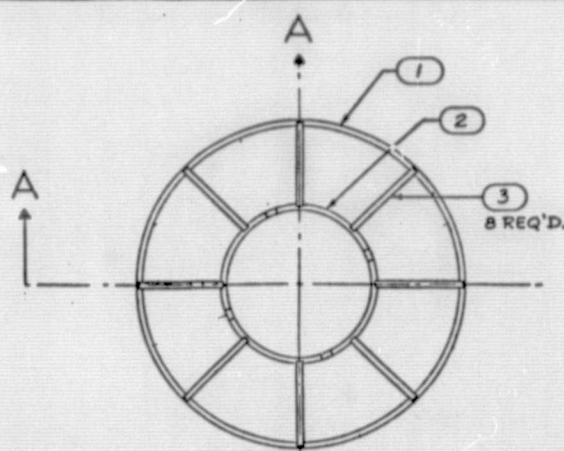


| REVISIONS | | DATE | APPRO |
|-----------|---|---------|-------|
| ZONE/CTR | DESCRIPTION | | |
| A | RELEASED | | |
| B | ADD 2.0 & 1.19 MAX. ITEM 4 DELETE "OR EQUIV". DELETE INLET, OUTLET DUCTS, ADD TBD. AT VENDOR'S REQUEST: 7.50 WAS 7.00; 2.46 MAX WAS 2.33; 2.50 MAX WAS 2.43; NOTE 2 .020 TIR WAS .010. ADDED NOTE 8 | 11/1/71 | aw |
| C | DELETED BEADS & "T.B.D." ADDED IN & OUT DUCTS ADDED ITEM 6 | 3/4/72 | aw |
| D | ADDED .50 DIA HOLE | 7/1/72 | aw |

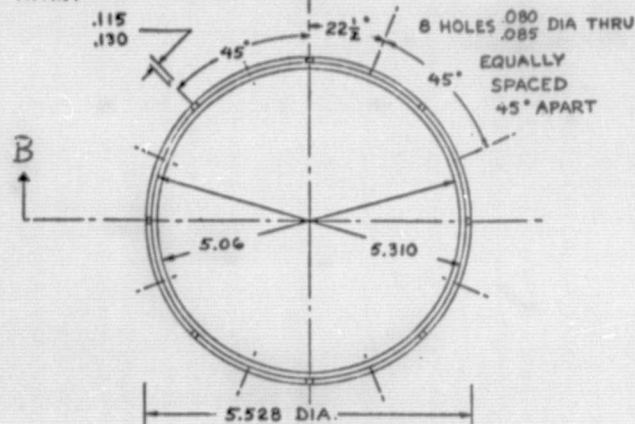
| | | | | | | | |
|-----------|------------------------------|----------------------------------|-------------------------------|------------------------------|------------------------|------|----------|
| 2 | GAMAH F 20210 C | TUBE WELD/ BRAZE FLANGE | GAMAH DIV. OF STANLEY, DENVER | CRES | 6 | | |
| 8 | FOR ITEM 4 | RIVET, FLUSH HEAD | | CRES | 5 | | |
| 4 | LOCKHEED LS-8830-08 | 8-32 FLOAT PLATE NUT, SELF LOCK. | FINISH: SILVER PLATED | A 286 | 4 | | |
| 24 | FOR ITEM 2 | RIVET, FLUSH HEAD | | CRES | 3 | | |
| 12 | STD. PRES. STL. CO N5 103798 | 10-32 FLOAT PLATE NUT, NON-LOCK. | FINISH: SILVER PLATED | A 286 | 2 | | |
| 1 | | HEAT EXCH'R. | 4 | 4 | 1 | | |
| QTY REQ'D | CODE IDENT | PART OR IDENTIFYING NO. | NOMENCLATURE OR DESCRIPTION | MATERIAL DESCRIPTION OR NOTE | MATERIAL SPECIFICATION | ZONE | ITEM NO. |

| | | | |
|-------------------------------|--|--------------|---|
| INTERPRET DWG PER | UNLESS OTHERWISE SPECIFIED DIM. ARE IN INCHES. TOLERANCES ON: FRACTIONS: $\pm 1/16$ DECIMALS: .XX $\pm .03$.XXX $\pm .010$ ANGLES ± 2 DEG | DATE 3-28-72 | LOCKHEED MISSILES & SPACE COMPANY A GROUP DIVISION OF LOCKHEED AIRCRAFT CORPORATION SUNNYVALE, CALIFORNIA |
| | | APPRO 1/1/72 | HEAT EXCHANGER ASS'Y. IHCO |
| | | ENGRG | |
| | | CHK 1/1/72 | |
| | | APPRO 1/1/72 | |
| NEXT ASSY U/FD ON APPLICATION | CONTR HAS 1-11526 CCA/CEI | APPRO | SIZE CODE IDENT DRAWING NO. E CC-101 REV D |
| | | | SCALE: FULL SHEET 1 OF 1 |

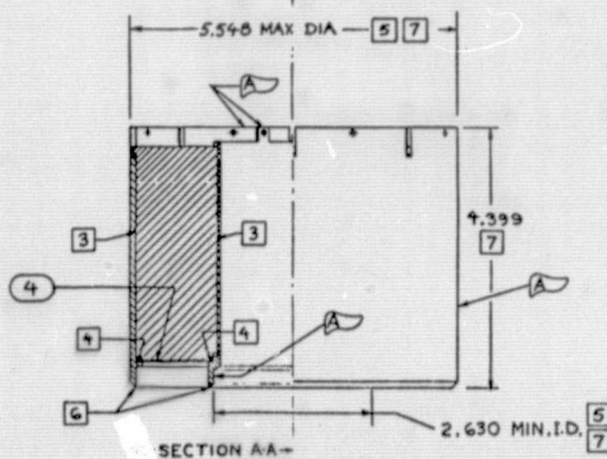
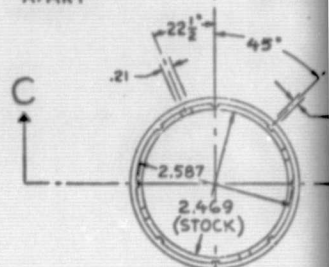
FOLDOUT FRAME 2 B-6



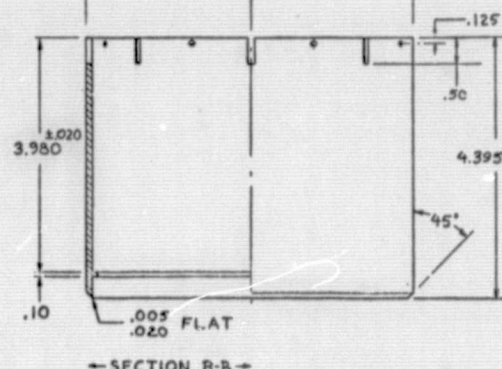
8 SLOTS EQUALLY SPACED
45° APART



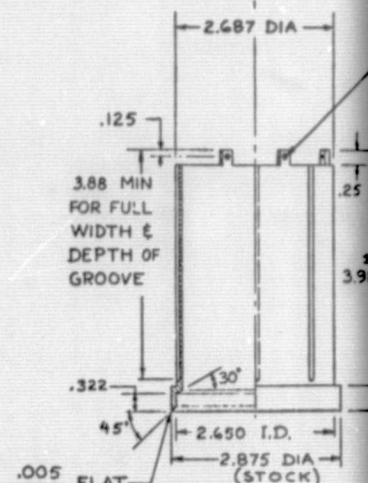
4 TABS. EQUALLY
SPACED 90°
APART



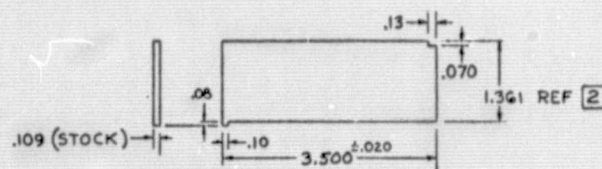
SECTION A-A
-501 ASSY. 1



SECTION B-B
ITEM 1 -1 DETAIL



SECTION C-C
ITEM 2 -3 DETAIL



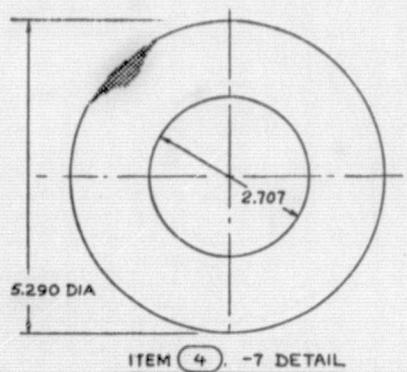
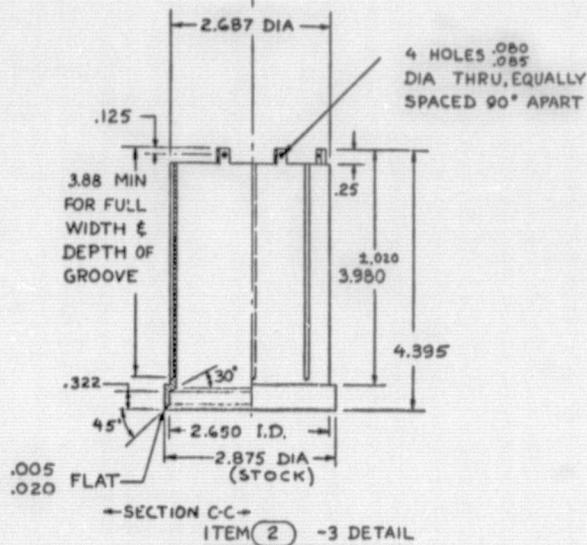
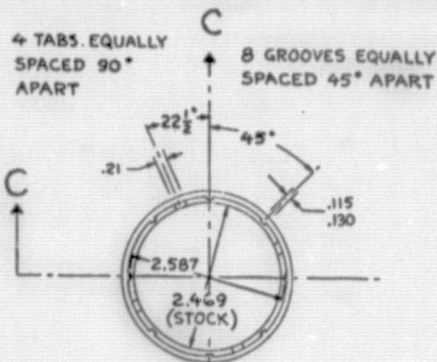
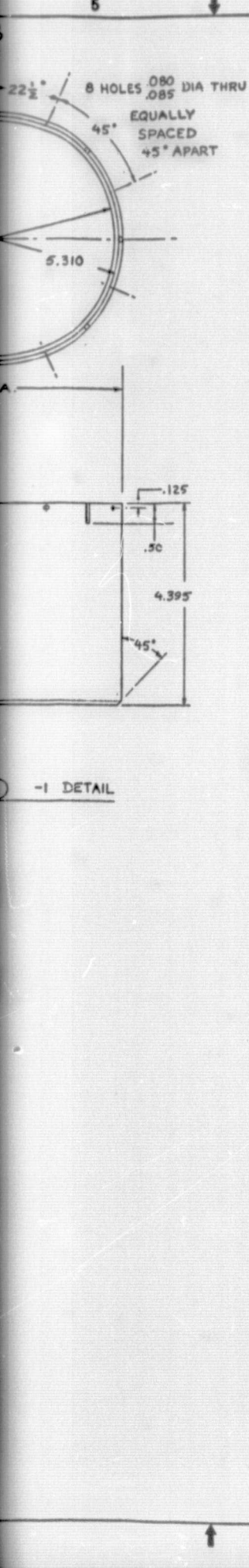
SECTION D-D
ITEM 3 -5 DETAIL



SECTION E-E
ITEM 4 -7 DETAIL

NOTES

- 1 -501 ASSY. TO BE FURNACE BRAZED USING BRAZE METAL HAVING MELTING POINT OF 1750°F OR MORE.
- 2 THIS DIM. TO BE DETERMINED SO AS TO PROVIDE PROPER BRAZE JOINT CLEARANCES.
- 3 ITEM 3 MUST BE BRAZED TO ITEMS 1 AND 2 WITH BRAZE METAL COMPLETELY FILLING THE JOINT ALONG ENTIRE LENGTH OF EACH MATING SURFACE.
- 4 ITEM 4 MUST BE WELDED OR BRAZED TO ITEMS 1 AND 2 FOR FIRM RETENTION AROUND BOTH CIRCUMFERENCES.
- 5 THESE DIAS. TO BE CONCENTRIC WITHIN .020 T.I.R.
- 6 THESE EDGES MUST LIE IN SAME PLANE WITHIN .005
- 7 AFTER COMPLETION OF BRAZING, APPLY .003 TO .005 COATING OF ALUMINUM OXIDE PER AMS 2436 TO SURFACES MARKED A NOT INCLUDING 45° CHAMFERS.

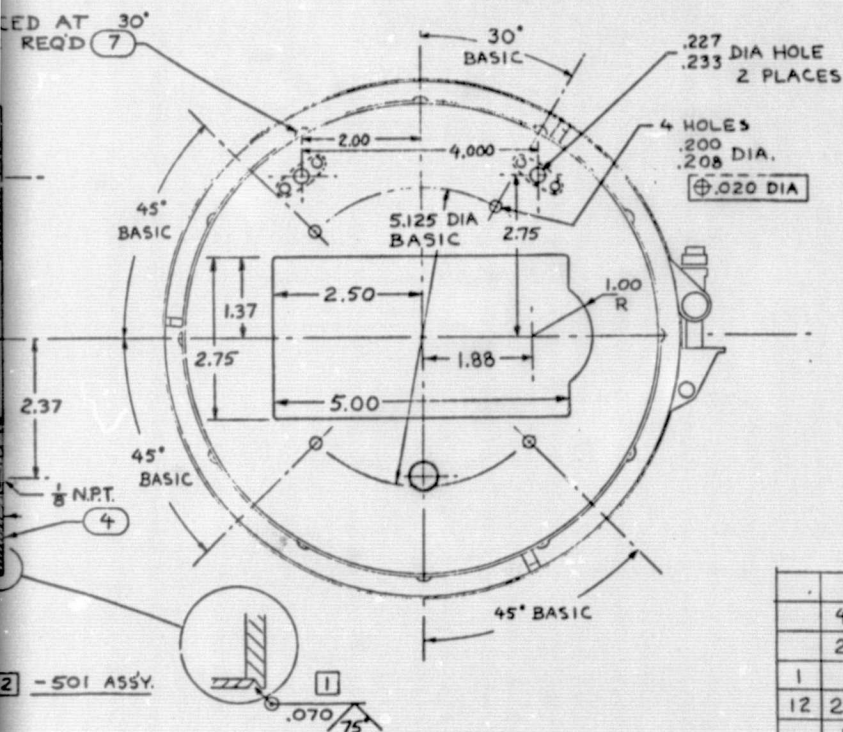


| QTY | CODE | PART OR | NOMENCLATURE OR | MATERIAL DESCIP- | MATERIAL | ZONE | ITEM |
|------|-------|----------------|-----------------|-------------------------------------|-----------------------------|------|------|
| REQD | IDENT | IDENTIFYING NO | DESCRIPTION | TION OR NOTE | SPECIFICATION | | NO |
| 1 | | CC-102-7 | SCREEN | 30 MESH .015 DIA WIRE | TYPE 316 STAINLESS STEEL | 4C | (4) |
| 8 | | CC-102-5 | FIN | 109 SHEET | NICKEL 200 | D7 | (3) |
| 1 | | CC-102-3 | INNER CYL | 2 1/2 DIA SCHED 40 PIPE | NICKEL 200 | 4FH | (2) |
| 1 | | CC-102-1 | OUTER CYL | 5 DIA SCHED 40 PIPE OR 109 SHEET | NICKEL 200 | 6FH | (1) |
| -501 | | | | | | | |

| INTERPRET DWG PER | | UNLESS OTHERWISE SPECIFIED DIM ARE IN INCHES TOLERANCES ON: | | DATE 11-3-72 | | LOCKHEED MISSILES & SPACE COMPANY, INC. | |
|-------------------|--|---|--|--------------|--|---|--|
| | | FRACTIONS = ± 1/16 | | DWN | | A SUBSIDIARY OF LOCKHEED AIRCRAFT CORPORATION | |
| | | DECIMALS: .XX = ± .01 | | APVD | | SUNNYVALE, CALIFORNIA | |
| | | .XXX = ± .010 | | ENGRG | | BRAZED ASSY.- | |
| | | ANGLES = ± 2 DEG | | CHKD | | CATALYST BED - IHCO | |
| | | | | APVD | | TCCS | |
| | | | | CONTR | | SIZE CODE IDENT DRAWING NO | |
| | | | | APVD | | E CC-102 | |
| | | | | | | SCALE FULL | |
| | | | | | | SHEET 1 | |

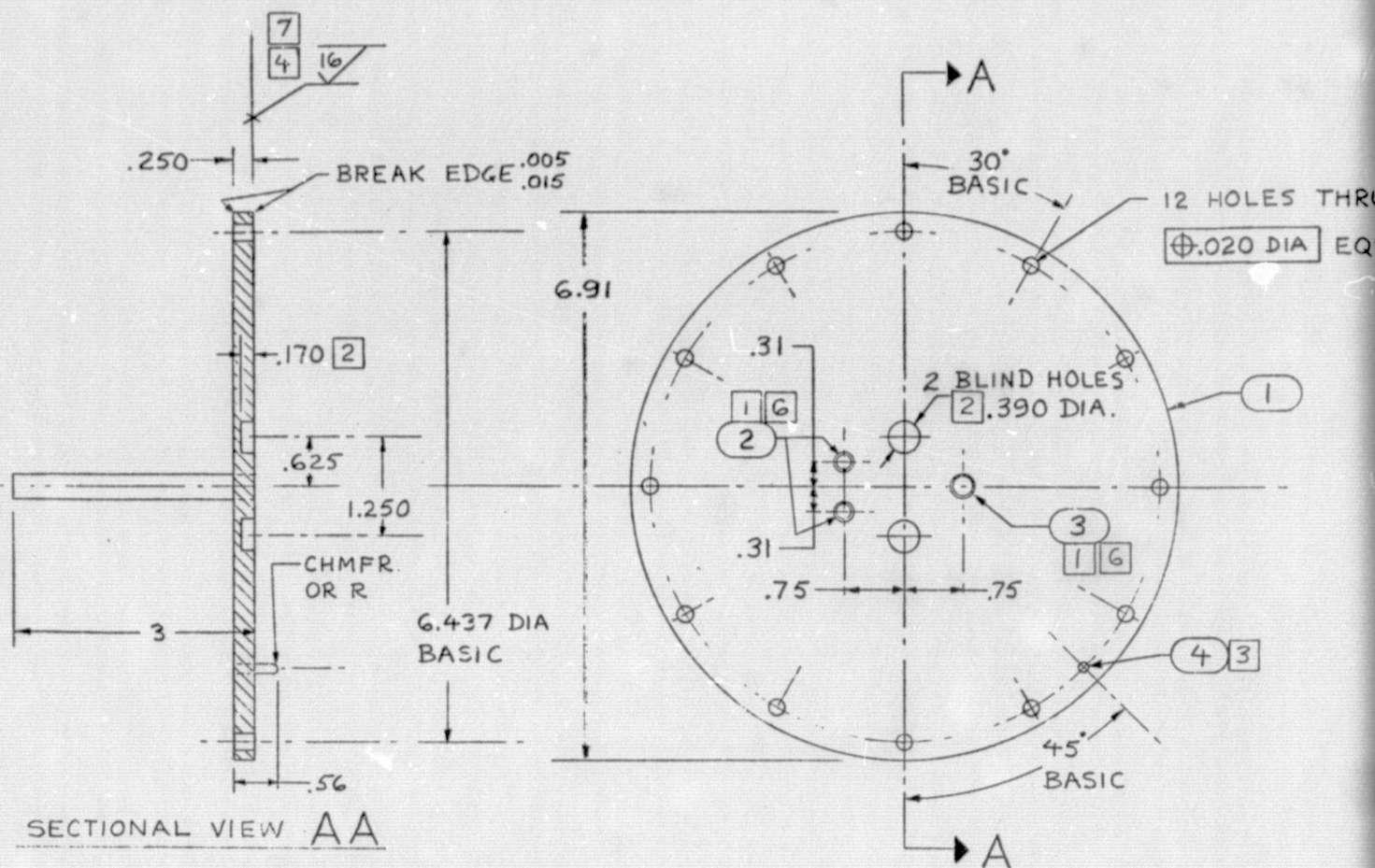
FOLDOUT FRAME

| REVISIONS | | DATE | APVD |
|-----------|-----|----------------------------|--------------|
| ZONE | LTR | DESCRIPTION | |
| 4C, 6C | A | ADD TAPPED HOLE 1/8 N.P.T. | 3-21-73 (AW) |
| 4D, 6D | | ADD ITEMS 9 & 10 | |



| QTY | QTY REQ'D | CODE IDENT | PART OR IDENTIFYING NO | NOMENCLATURE OR DESCRIPTION | MATERIAL SPECIFICATION | ZONE | ITEM NO |
|------------|-----------|------------|------------------------|-----------------------------|---------------------------------|-------------|---------|
| 4 | | | | FLUSH HEAD RIVET | FOR ITEM 9 | | 10 |
| 2 | | | | FLOATING PLATE NUT #10-32 | LS 8830-1 OR EQUIV. | | 9 |
| 1 | | -15 | | DISC, THIN | .011 THICK AL 6061 T6 | QQA250 | 8 |
| 12 | 24 | -13 | | RIVET 100° C/SUNK | MS-20426-DD4-5 | 2024T4 AL | 7 |
| 1 | | -11 | | COUPLING | AEROGUIP-MARKHAM M83653-K5-874T | CR3 | 6 |
| 1 | 2 | -9 | | FLANGE | AEROGUIP-MARKHAM SS001-800A | ANODIZED AL | 5 |
| 1 | | -7 | | DISC, THICK | .160 THICK AL 6061 T6 | QQA250 | 4 |
| 1 | | -5 | | CYL, LONG | 8" O.D. X .072 WALL AL TUBE | G063T6 | 3 |
| 1 | | -3 | | CYL, SHORT | 8" O.D. X .072 WALL AL TUBE | G063T6 | 2 |
| 1 | | | CC-103-1 | DISC, THIN | .071 THICK AL 6061 T6 | QQA250 | 1 |
| PARTS LIST | | | | | | | |

| INTERPRET DWG PER | | DATE | LOCKHEED MISSILES & SPACE COMPANY INC |
|-------------------|----------|----------|---|
| | | 11-27-72 | A SUBSIDIARY OF LOCKHEED AIRCRAFT CORPORATION |
| | | DWN | SUNNYVALE, CALIFORNIA |
| | | APVD | |
| | | APVD | |
| | | ENGRG | |
| | | CHKD | |
| | | APVD | |
| | | APVD | |
| NEXT ASSY | USED ON | CONTR | SIZE CODE IDENT |
| APPLICATION | CCA/CIFD | APVD | DRAWING NO |
| | | | CC-103 |
| | | | SCALE FULL |
| | | | SHEET 1 OF 1 |

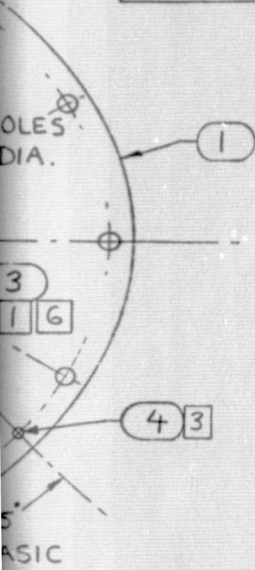


- 1 HOLE DIAS. IN ITEM 1 TO BE DETERMINED TO PROVIDE PROPER BRAZING CLEARANCES FOR ITEMS 2 AND 3. MELTING TEMP OF BRAZE METAL MUST BE 1750°F OR HIGHER.
- 2 AFTER BRAZING, APPLY .003 TO .006 (TOTAL BOTH COATS) OF PURE ALUMINA OVER NICKEL ALUMINIDE BASE PER AMS-2436 TO SIDE & BOTTOM SURFACES OF THE TWO BLIND HOLES. DIMENSIONS APPLY AFTER COATING APPLIED.
- 3 PRESS FIT, AFTER NOTES 1, 2, 4 & 7 ARE MET.
- 4 SURFACE FINISH & FLATNESS APPLY INWARD FROM BOLT CIRCLE TO 2 1/4 DIA. PERFORM THIS FINAL GRINDING AFTER NOTES 1 & 2 ARE COMPLETED. SEE NOTE 7.
- 5 VAPOR DEGREASE PER LAC-0170.
- 6 -503 ASSY IS IDENTICAL TO -501 ASSY EXCEPT THAT ITEMS 2 & 3 AND

- 7 THEIR HOLES ARE OMITTED. FLATNESS REQUIRED INWARD FROM BOLT CIRCLE TO 2 1/4 DIA. WAVINESS LESS THAN .0005 PER 3 INCHES OF CIRCUMFERENCE, OR .001 T.I.R. AROUND ENTIRE CIRCUMFERENCE.

12 HOLES THRU .212 DIA
.218

+.020 DIA EQUALLY SPACED



MITTED.

NWARD FROM BOLT

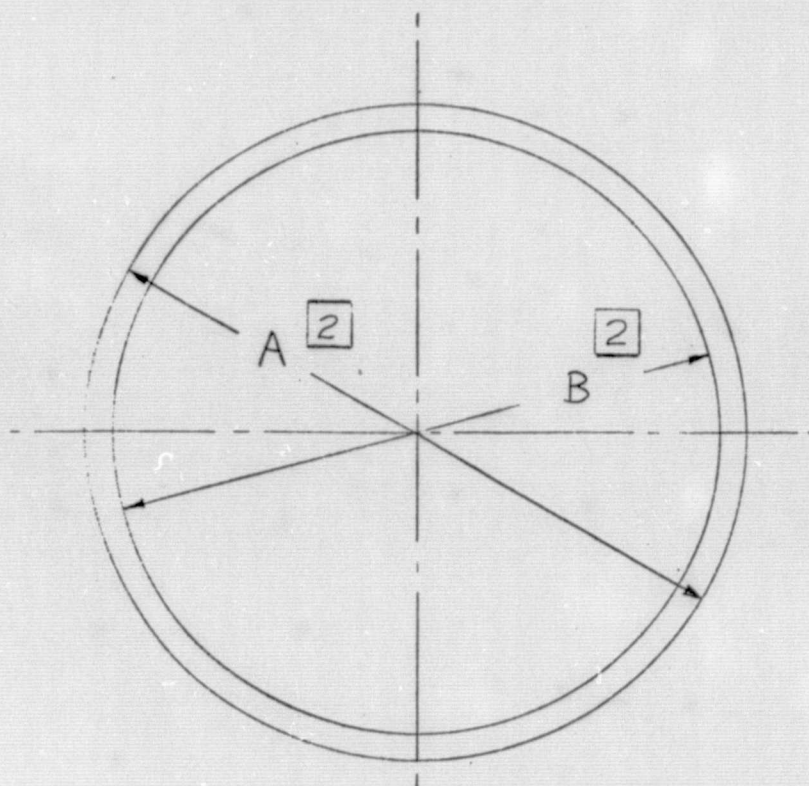
AINESS LESS THAN

OF CIRCUMFERENCE,

ENTIRE CIRCUMFERENCE.

| | | | | | | | | |
|----------|----------|------------|-------------------------|-----------------------------|------------------------------|------------------------|------|----------|
| | | | | | | | | |
| 1 | 1 | | -7 | INDEX PIN | .125 DRILL ROD | STAINLESS STEEL | | 4 |
| | 1 | | -5 | LARGE TUBE | OMEGA ENG. CO. STAMFORD CONN | INC 516-6 | | 3 |
| | 2 | | -3 | SMALL TUBES | INCONEL TUBE EACH 3 IN. LONG | INC 14-6 | | 2 |
| 1 | 1 | | CC-104-1 | DISC | .250 THICK INCONEL X-750 | AMS-5542 | | 1 |
| QTY REQD | QTY REQD | CODE IDENT | PART OR IDENTIFYING NO. | NOMENCLATURE OR DESCRIPTION | MATERIAL DESCRIPTION OR NOTE | MATERIAL SPECIFICATION | ZONE | ITEM NO. |
| 6 | -503 | -501 | | | | | | |

| INTERPRET DWG PER | | UNLESS OTHERWISE SPECIFIED DIM. ARE IN INCHES. TOLERANCES ON: | | DATE | LOCKHEED MISSILES & SPACE COMPANY A GROUP DIVISION OF LOCKHEED AIRCRAFT CORPORATION SUNNYVALE, CALIFORNIA | | | |
|-------------------|---------|---|--|------------------|---|------------|--------------|-----|
| | | FRACTIONS = ± 1/16 | | 11-28-72 | BRAZED END PLATE ASSY. | | | |
| | | DECIMALS: .X = ± .1 | | DR aw | | | | |
| | | .XX = ± .03 | | APPD | | | | |
| | | .XXX = ± .010 | | APPD | | | | |
| | | ANGLES = ± 2 DEG | | ENGRG | IHCO TCCS | | | |
| | | | | CHK P.B. 2/10/73 | | | | |
| NEXT ASSY | USED ON | CONTR | | APPD | SIZE | CODE IDENT | DRAWING NO. | REV |
| APPLICATION | | CCA/CEI | | | D | | CC-104 | B |
| | | | | SCALE | FULL | | SHEET 1 OF 1 | |

LIMITED
CALENDAR
LIFELIMITED
OPERATING
LIFENOTES

1. VAPOR DEGREASE PER LAC-0170.

2 DIAS. A & B CONCENTRIC .030 TIR.

| | | | | | |
|-------|-------|----------|------------|-------------------------|---------|
| | | | | | |
| | | | | | |
| | | | | | |
| | | | | | |
| 3.250 | 2.635 | 1 | | -3 | WAS |
| 5.578 | 5.000 | 1 | | CC-105 -1 | WAS |
| A | B | QTY REQD | CODE IDENT | PART OR IDENTIFYING NO. | NOME DE |
| O.D. | I.D. | | | | |

| | | | |
|-------------------|---------|--|------|
| INTERPRET DWG PER | | UNLESS OTHERWISE SPECIFIED DIM. ARE IN INCHES. TOLERANCES ON: FRACTIONS = ± 1/16 DECIMALS: .X = ± .1 .XX = ± .03 .XXX = ± .010 ANGLES = ± 2 DEG | DATE |
| | | | DR |
| | | | APPD |
| | | | APPD |
| | | | ENGR |
| | | | CHK |
| | | | APPD |
| NEXT ASSY | USED ON | CONTR | |
| APPLICATION | | CCA/CEI | APPD |

LIMITED
CALENDAR
LIFE

LIMITED
OPERATING
LIFE

| REVISIONS | | | |
|-----------|-----|--|---------|
| ZONE | LTR | DESCRIPTION | DATE |
| | A | 3.250 WAS 3.25; 5.000 WAS 5.00 ADD NOTE 2. | 2/14/73 |
| | B | MAT'L. WAS .010 ANNEALED COPPER PER QQC-576 | 4/23/73 |

| | | | | | | | | |
|---------|-------------|---------------|----------------------------|--------------------------------|-----------------------------------|----------------------------|------|-------------|
| | | | | | | | | |
| | | | | | | | | |
| | | | | | | | | |
| | | | | | | | | |
| 02.635 | 1 | | -3 | WASHER | | | | 2 |
| 8 5.000 | 1 | | CC-105 -1 | WASHER | STAINLESS STEEL .006 SHEET | TYPE 316 (ELC OPTIONAL) | | 1 |
| B | QTY REQD | CODE IDENT | PART OR IDENTIFYING NO. | NOMENCLATURE OR DESCRIPTION | MATERIAL DESCRI- PTION OR NOTE | MATERIAL SPECIFICATION | ZONE | ITEM NO. |
| I.D. | | | | | | | | |

| | | | | | | | | |
|-------------------|--|---|--|------------------------------|---|--------------|-------------|-----|
| INTERPRET DWG PER | | UNLESS OTHERWISE SPECIFIED DIM. ARE IN INCHES. TOLERANCES ON: | | DATE 11-29-72 | LOCKHEED MISSILES & SPACE COMPANY | | | |
| | | FRACTIONS = $\pm 1/16$ | | DR <i>aw</i> | A GROUP DIVISION OF LOCKHEED AIRCRAFT CORPORATION | | | |
| | | DECIMALS: .X = $\pm .1$ | | APPD | SUNNYVALE, CALIFORNIA | | | |
| | | .XX = $\pm .03$ | | APPD | WASHERS | | | |
| | | .XXX = $\pm .010$ | | ENGRG | I H C O T C C S | | | |
| | | ANGLES = ± 2 DEG | | CHK <i>R.B. Mann</i> 2-14-75 | | | | |
| CONTR | | | | APPD | SIZE | CODE IDENT | DRAWING NO. | REV |
| CCA/CEI | | | | APPD | C | | CC-105 | B |
| APPLICATION | | | | SCALE NONE | | SHEET 1 OF 1 | | |

FOLDOUT FRAME B-10

4

3

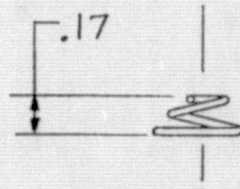
2

LIMITED
CALENDAR
LIFELIMITED
OPERATING
LIFE

D

CIRCUMSCRIBED
DIA = .430

C

ACTIVE TURNS = 1
SOLID HEIGHT = .022
SPIRAL: RIGHT OR LEFT HAND

B

A

| 2 | | | |
|-------------|---------------|----------------------------|----------|
| QTY REQD | CODE IDENT | PART OR IDENTIFYING NO. | NOM D |

| INTERPRET DWG PER | | UNLESS OTHERWISE SPECIFIED DIM. ARE IN INCHES. TOLERANCES ON: FRACTIONS = $\pm 1/16$ DECIMALS: .X = $\pm .1$.XX = $\pm .03$.XXX = $\pm .010$ ANGLES = ± 2 DEG | DATE |
|-------------------|---------|--|------|
| | | | DR |
| | | | APPD |
| | | | APPD |
| | | | ENGR |
| | | CONTR | CHK |
| NEXT ASSY | USED ON | CCA/CEI | APPD |
| APPLICATION | | | |

FORM LMSC 1512C-7 PRINTED ON LMSC CODE: 5

FOLDOUT FRAME

LIMITED
CALENDAR
LIFE

LIMITED
OPERATING
LIFE

| REVISIONS | | | |
|-----------|-----|--------------------------|--------|
| ZONE | LTR | DESCRIPTION | DATE |
| C3 | A | WIRE DIA WAS .026. ADDED | 3/6/73 |
| B2 | | SPIRAL; R OR L HAND | |

EFT HAND

| | | | | | | | |
|---|------------|---------------------------------|-----------------------------|---|------------------------|-------------|----------|
| 2 | | | | .022 DIA. WIRE | TUNGSTEN | | |
| QTY REQD | CODE IDENT | PART OR IDENTIFYING NO. | NOMENCLATURE OR DESCRIPTION | MATERIAL DESCRIPTION OR NOTE | MATERIAL SPECIFICATION | ZONE | ITEM NO. |
| PARTS LIST | | | | | | | |
| UNLESS OTHERWISE SPECIFIED DIM. ARE IN INCHES. TOLERANCES ON: | | DATE 12-1-72 | | LOCKHEED MISSILES & SPACE COMPANY A GROUP DIVISION OF LOCKHEED AIRCRAFT CORPORATION SUNNYVALE, CALIFORNIA | | | |
| FRACTIONS = $\pm 1/16$ | | DR <i>AW</i> | | SPRING, HEATER | | | |
| DECIMALS: .X = $\pm .1$ | | APPD | | | | | |
| .XX = $\pm .03$ | | APPD | | IHCO TCCS | | | |
| .XXX = $\pm .010$ | | ENGRG | | | | | |
| ANGLES = ± 2 DEG | | CHK <i>L. B. Marino</i> 2-19-73 | | | | | |
| CONTR | | APPD | | SIZE | CODE IDENT | DRAWING NO. | REV |
| CCA/CEI | | APPD | | C | | CC-106 | A |
| SCALE 2:1 | | | | SHEET 1 OF 1 | | | |

D

C

B

A

B-11

FOLDOUT FRAME 2

8

7

6

5

4

REQUIREMENT:

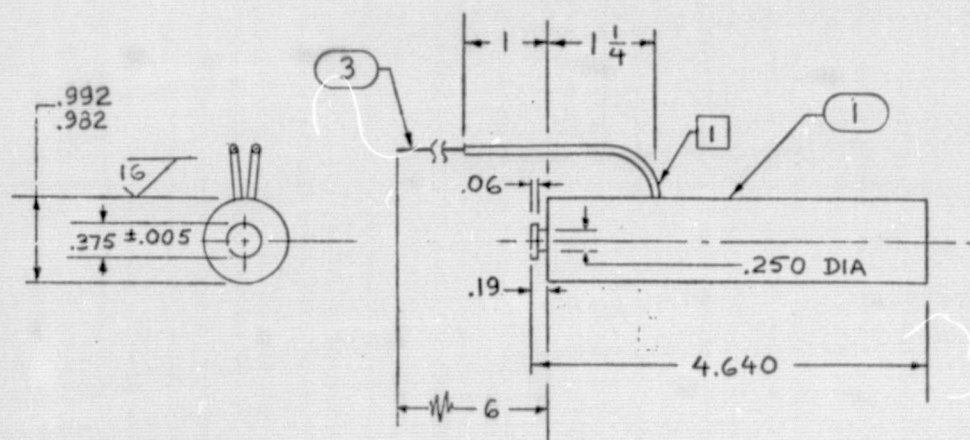
OPERATING CYLINDER TEMP 10

OPERATING POWER 70 WATTS

120 VOLTS

400 Hz.

COLD R WITHOUT LEADS = 184

NOTES

1 INSULATION MUST WITHSTAND 1500°F

REQUIREMENTS

CYLINDER TEMP 1000°F
 POWER 70 WATTS AT
 120 VOLTS RMS,
 400 Hz.
 WITHOUT LEADS = 184 Ω

LIMITED
 CALENDAR
 LIFE

LIMITED
 OPERATING
 LIFE

| REVISIONS | | | |
|-----------|--|---------|----------|
| ZONE | DESCRIPTION | DATE | APPD |
| A | ADDED .250 DIA. LENGTHENED LEAD INSUL BY 1 IN. | 2/2/73 | AW |
| B | ADDED 16 TO CYL. DIA. | 2/14/73 | AW Bm |
| C | DELETED ITEM 2 (.032 CHRO- MEL-ALUMEL THERMOCOUPLE) ITEM 1 MAT'L. WAS HASTELLOY C. REQUIREMENTS: CYL. TEMP. WAS 1500°F MAX., POWER WAS 74 WATTS AT 115 VAC | 8/16/73 | AW |

| 1 PR | | POWER LEAD | WIRE DIA .052 MAX | | | | (3) |
|-------------|---------------|----------------------------|--------------------------------|----------------------------------|---------------------------|------|-------------|
| 1 | | CYLINDER | STAINLESS STEEL | TYPE 316 | | | (1) |
| QTY REQD | CODE IDENT | PART OR IDENTIFYING NO. | NOMENCLATURE OR DESCRIPTION | MATERIAL DESCIP- TION OR NOTE | MATERIAL SPECIFICATION | ZONE | ITEM NO. |

PARTS LIST

| | | | | | | | |
|-------------------|--|---|--|---------------------|--|---|--|
| INTERPRET DWG PER | | UNLESS OTHERWISE SPECIFIED DIM. ARE IN INCHES. TOLERANCES ON: | | DATE 12-1-72 | | LOCKHEED MISSILES & SPACE COMPANY | |
| | | FRACTIONS = ± 1/16 | | DR AW | | A GROUP DIVISION OF LOCKHEED AIRCRAFT CORPORATION | |
| | | DECIMALS: .X = ± .1 | | APPD | | SUNNYVALE, CALIFORNIA | |
| | | .XX = ± .03 | | ENGRG | | HEATER, ELECTRIC | |
| | | .XXX = ± .010 | | CHK CB-Main 2-14-73 | | | |
| | | ANGLES = ± 2 DEG | | APPD | | | |
| | | CONTR | | APPD | | | |
| NEXT ASSY | | USED ON | | SIZE CODE IDENT | | DRAWING NO. | |
| APPLICATION | | CCA CBI | | D | | CC-107 | |
| | | | | SCALE: FULL | | SHEET 1 OF 1 | |

B-12

FOLDOUT FRAME 2

8

7

6

5

4

D

C

B

A

 $\pm .015$ DIA

TAP 0-80 UNF
8 PLACES, 4 OF
WHICH ALIGN
WITH THE HOLES
IN ITEM (2)

.090
BASIC

45°
BASIC
8 PLACES

SECTION
A-A

(2)

(1)

(3)

-501 ASS'Y. (1)

B

B

5.02
I.D.

ITEM

C

2.98 O.D.

2.727
I.D.

C

.300

.030

.200

.21

.050

.090
BASICSECTION
C-C

TAP 0-80 UNF
4 PLACES
SPACED 90°
BASIC

 $\pm .015$ DIA

ITEM (2) -3 DETAIL

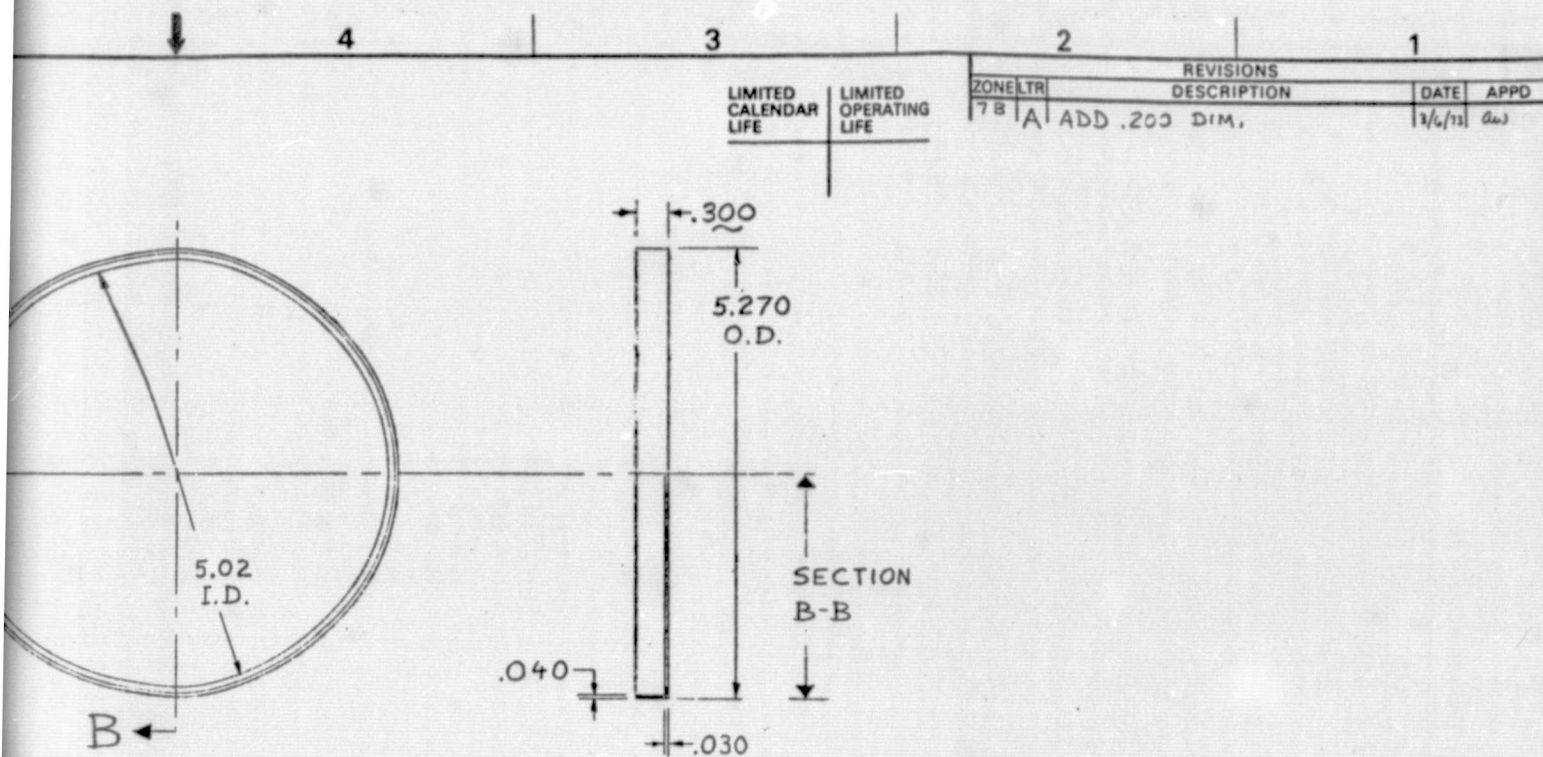
2.79

5.21

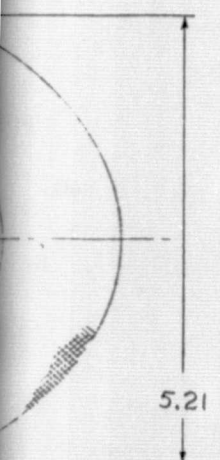
ITEM (3) -5 DETAIL

NOTES

- (1) OUTSIDE DIA OF ITEM (1) MUST BE CONCENTRIC TO INSIDE DIA OF ITEM (2) WITHIN .020
RESISTANCE WELD ITEM (3) TO ITEMS (1) AND (2) AT SPOTS SPACED $\frac{1}{8}$ INCH APART AROUND CIRCUMFERENCE OF EACH. WELD PER LAC 1421 CLASS C.
2 VAPOR DEGREASE PER LAC 0170.



ITEM (1) -1 DETAIL



-5 DETAIL

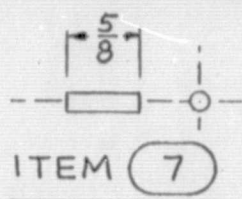
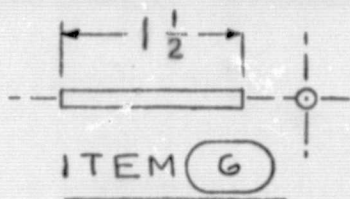
| 12 | | -7 | *O-80 SCREW 1/8 LONG | BINDER OR FILUSTER OR PAN HEAD ALUMINUM SCR. PROOF | TYPE 305(18-8) | 4 |
|-------------|---------------|----------------------------|--------------------------------|--|-----------------------------|---------------------|
| 1 | | -5 | SCREEN | 30 MESH .013 DIA WIRE | TYPE 316 S.S. | (3) |
| | | -3 | SMALL RING | 3/8 PLATE | TYPE 316 STAINLESS STEEL | (2) |
| 1 | | CC-108 -1 | LARGE RING | 3/8 PLATE | TYPE 316 STAINLESS STEEL | (1) |
| QTY REQD | CODE IDENT | PART OR IDENTIFYING NO. | NOMENCLATURE OR DESCRIPTION | MATERIAL DESCRI- PTION OR NOTE | MATERIAL SPECIFICATION | ZONE ITEM NO. |

PARTS LIST

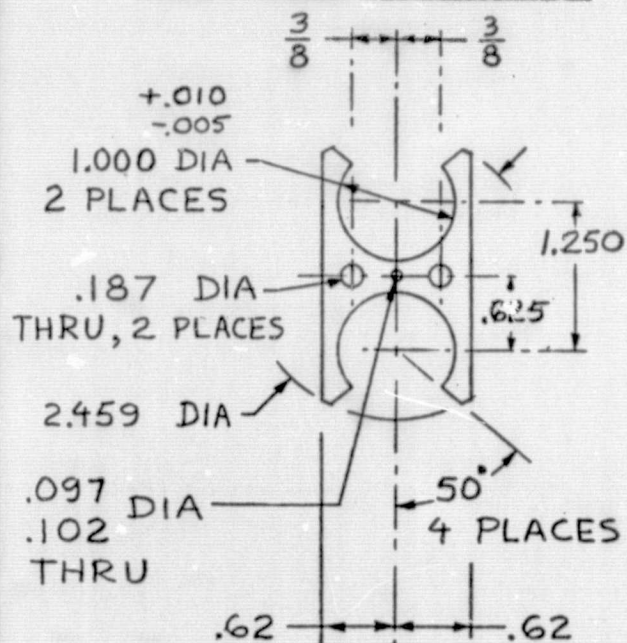
| | | | | | | | |
|-------------------|--|---|--|---------------------|--|---|--|
| INTERPRET DWG PER | | UNLESS OTHERWISE SPECIFIED DIM. ARE IN INCHES. TOLERANCES ON: | | DATE 12-8-72 | | LOCKHEED MISSILES & SPACE COMPANY | |
| | | FRACTIONS = $\pm 1/16$ | | DR (AW) | | A GROUP DIVISION OF LOCKHEED AIRCRAFT CORPORATION | |
| | | DECIMALS: .X = $\pm .1$ | | APPD | | SUNNYVALE, CALIFORNIA | |
| | | .XX = $\pm .03$ | | APPD | | CATALYST RETAINER | |
| | | .XXX = $\pm .010$ | | ENGRG | | :HCO TCCS | |
| | | ANGLES = ± 2 DEG | | CHK (B. J.) 2-19-73 | | | |
| | | CONTR | | APPD | | SIZE CODE IDENT DRAWING NO. | |
| NEXT ASSY USED ON | | CCA/CEI | | APPD | | D CC-108 A | |
| APPLICATION | | | | | | SCALE: FULL SHEET 1 OF 1 | |

FOLDOUT FRAME

B-13

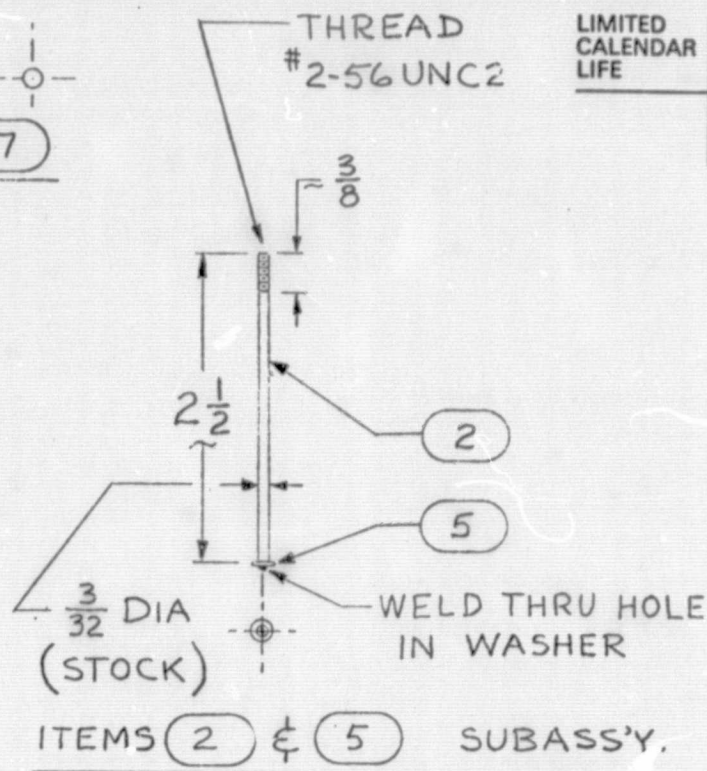


ITEM 1 -1 DETAIL



NOTES:

1. SOLVENT CLEAN PER LAC-0170.



LIMITED CALENDAR LIFE

LIMITED OPERATING LIFE

| 1 | | -13 | S |
|----------|------------|-------------------------|---------------|
| 1 | | -11 | S |
| 1 | | -9 | W |
| 5 | | -7 | W |
| 2 | | -5 | #2 |
| 1 | | -3 | $\frac{3}{3}$ |
| 2 | | CC-109-1 | PO |
| QTY REQD | CODE IDENT | PART OR IDENTIFYING NO. | NO |

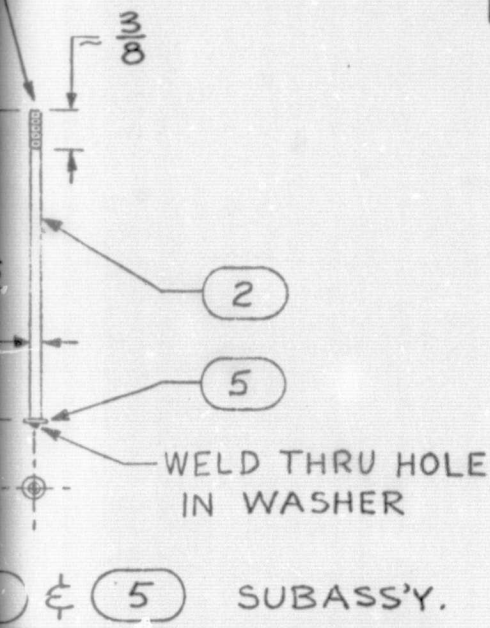
| INTERPRET DWG PER | | UNLESS OTHERWISE SPECIFIED DIM. ARE IN INCHES. TOLERANCES ON: | DA DR AP AP EN CH AP AP |
|-------------------|---------|---|--|
| | | | |
| | | | |
| | | | |
| | | | |
| NEXT ASSY | USED ON | CONTR | |
| APPLICATION | | CCA/CEI | |

THREAD
#2-56UNC2

LIMITED
CALENDAR
LIFE

LIMITED
OPERATING
LIFE

| REVISIONS | | | |
|-----------|-----|--------------------------------|----------------|
| ZONE | LTR | DESCRIPTION | DATE |
| C4 | A | .625 WAS .750; 1.250 WAS 1.500 | 2/14/73 |
| | | | APPD <i>QW</i> |



| | | | | | | | |
|-------------|---------------|----------------------------|--------------------------------|-----------------------------------|---------------------------|------|-------------|
| 1 | | -13 | SPACER | .148 O.D.X.015W | 304 321 TUBE | | 7 |
| 1 | | -11 | SPACER | .148 O.D.X.015W | 304 OR 321 TUBE | | 6 |
| 1 | | -9 | WASHER | NAS620C2 | CRES | | 5 |
| 5 | | -7 | WASHER | AN960C3 | CRES | | 4 |
| 2 | | -5 | #2-56 NUT | LS-8889-02A | CRES | | 3 |
| 1 | | -3 | 3/32 DIA ROD | TYPE 304 CRES | QQS-763 | | 2 |
| 2 | | CC-109-1 | POSITIONER | .020 CRES SHT. | MIL-S-5059 TYPE 302 | | 1 |
| QTY REQD | CODE IDENT | PART OR IDENTIFYING NO. | NOMENCLATURE OR DESCRIPTION | MATERIAL DESCRI- PTION OR NOTE | MATERIAL SPECIFICATION | ZONE | ITEM NO. |

PARTS LIST

PREP DWG PER

UNLESS OTHERWISE
SPECIFIED DIM. ARE IN
INCHES. TOLERANCES ON:
FRACTIONS = $\pm 1/16$
DECIMALS: .X = $\pm .1$
.XX = $\pm .03$
.XXX = $\pm .010$
ANGLES = ± 2 DEG

DATE DEC. 11 '72

DR *aw*

APPD

APPD

ENGRG

CHK *L.B. Manie* 2-11-73

APPD

APPD

LOCKHEED MISSILES & SPACE COMPANY
A GROUP DIVISION OF LOCKHEED AIRCRAFT CORPORATION
SUNNYVALE, CALIFORNIA

POSITIONER, HTR.

I H C O

T C C S

ASSY USED ON
APPLICATION

CONTR

CCA/CEI

SIZE

C

CODE IDENT

DRAWING NO.

CC-109

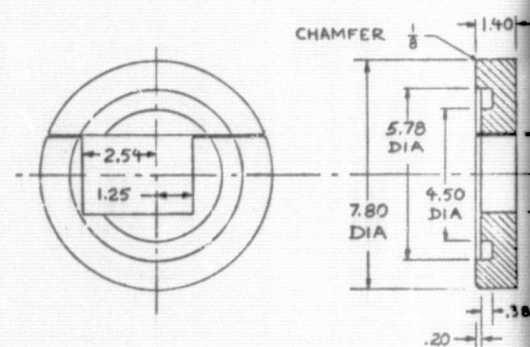
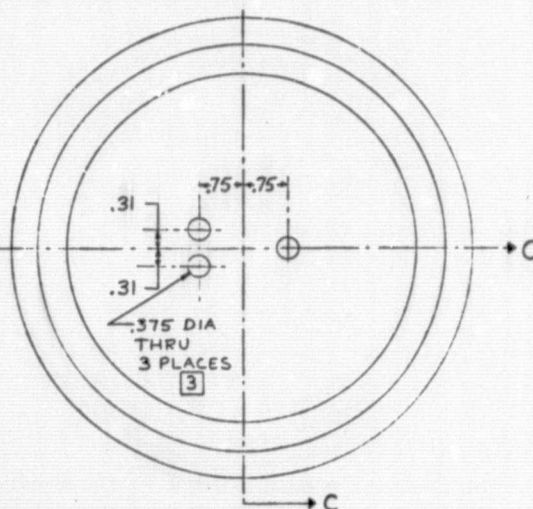
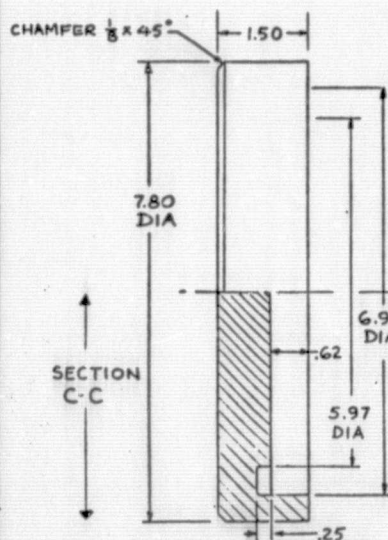
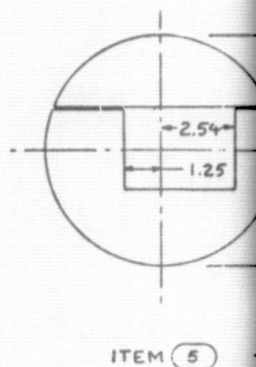
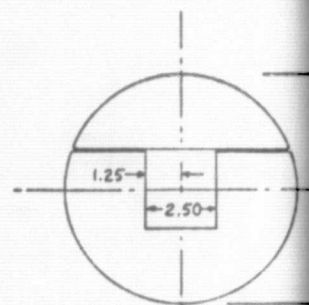
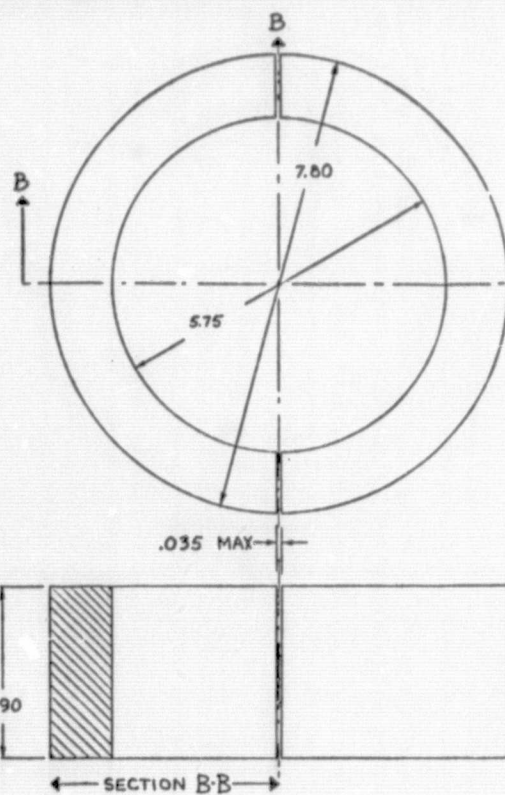
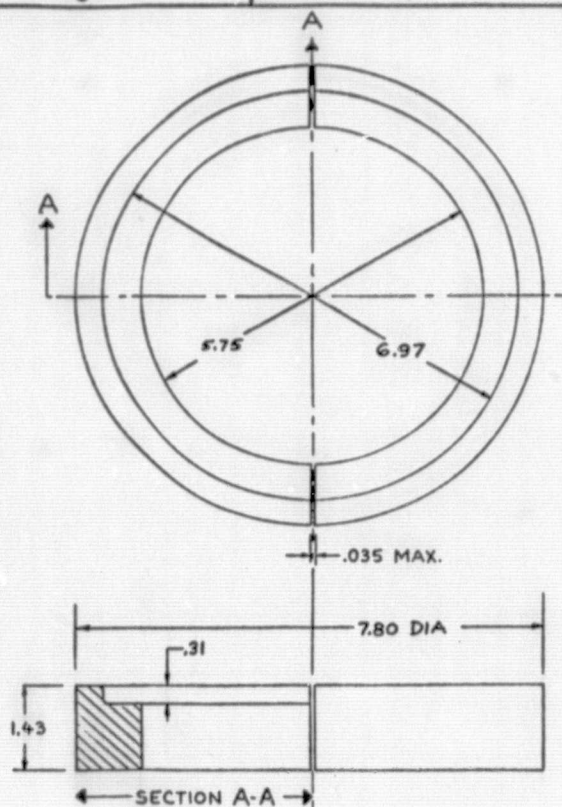
REV

A

SCALE: FULL

SHEET 1 OF 1

FOLDOUT FRAME B-14
2



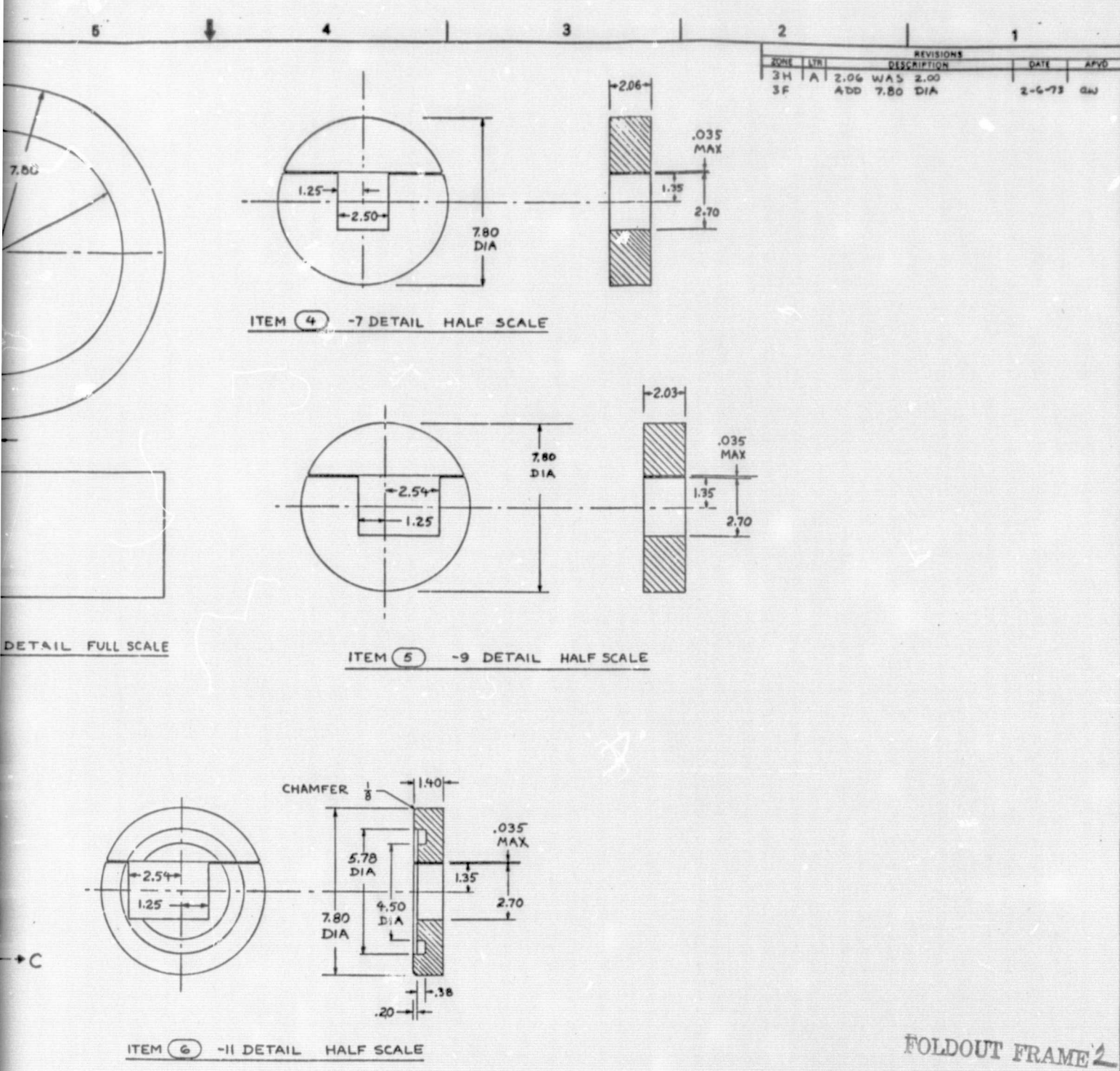
ITEMS { 7 -13 } DETAILS FULL SCALE
3 -5

NOTES

- PARTICLES OF THIS MATERIAL ARE HAZARDOUS TO BREATHE. THEREFORE WHILE MACHINING, FILTER MASK SHOULD BE WORN & DEBRIS SHOULD BE CONTINUOUSLY DRAWN AWAY BY VACUUM.
- THIS MATERIAL IS ABRASIVE. USE CARBALOY TOOLS OR GRINDING WHEELS.
- ITEM (3) WITH HOLES, ITEM (7) OMIT HOLES.

ORIGINAL PAGE IS
OF POOR QUALITY

FOLDOUT FRAME



| QTY REQD | CODE IDENT | PART OR IDENTIFYING NO | NOMENCLATURE OR DESCRIPTION | MATERIAL DESCRIPTION OR NOTE | MATERIAL SPECIFICATION | ZONE | ITEM NO |
|----------|------------|------------------------|-----------------------------|------------------------------|-------------------------------|------|---------|
| 1 | | -13 | | | | | 7 |
| 1 | | -11 | | | | | 6 |
| 1 | | -9 | | | | | 5 |
| 2 | | -7 | | | | | 4 |
| 1 | | -5 | | | | | 3 |
| 1 | | -3 | | | | | 2 |
| 1 | | -1 | | 3" THICK GLA | MIN K 1301 JOHN'S PAVYBULP | | 1 |

INTERPRET DWG PER

UNLESS OTHERWISE SPECIFIED DIM ARE IN INCHES. TOLERANCES ON:

FRACTIONS = ± 1/16

DECIMALS: .XX = ± .1

.XXX = ± .010

ANGLES = ± 2 DEG

CONTR

APPLICATION CCA/CJ/FO

DATE 12-15-72

OWN (JJA)

APVD

ENGRS

CHGR P. R. HARRIS 2-11-72

APVD

LOCKHEED MISSILES & SPACE COMPANY, INC

A SUBSIDIARY OF LOCKHEED AIRCRAFT CORPORATION

SUNNYVALE, CALIFORNIA

THERMAL INSULATION

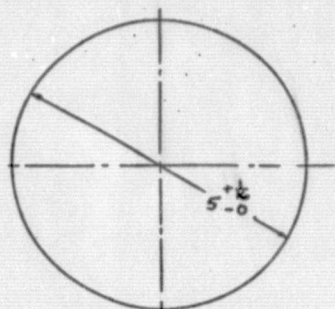
THCO TCCS

SIZE CODE IDENT DRAWING NO

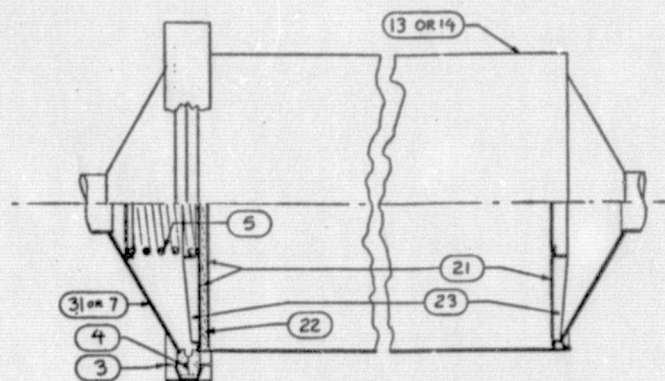
E - CC-110

SCALE 2:1

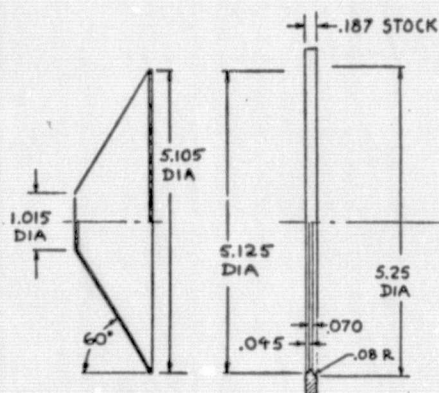
SHEET 1 OF 1



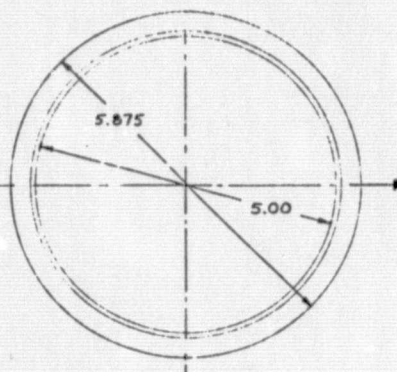
ITEM (22) -43 DETAIL



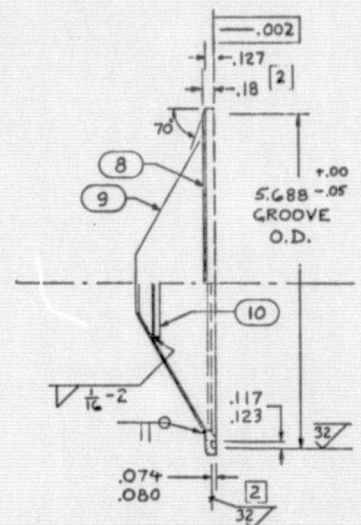
ITEMS (1) & (2), -501 & -503 ASSY'S. (4)



ITEM (9)
-17 DETAIL



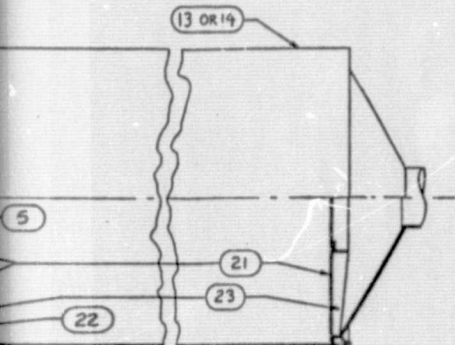
ITEM (8) -15 DETAIL



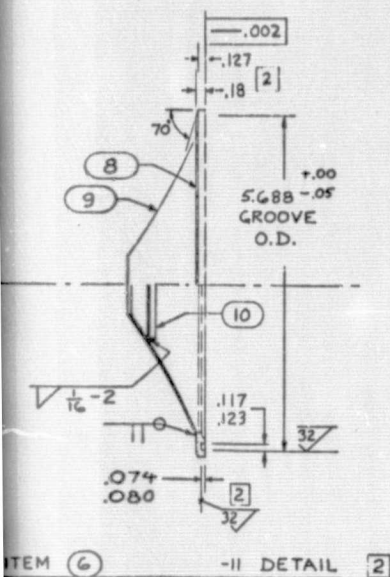
ITEM (6) -11 DETAIL (2)

NOTES

1. WELD PER LAC 3853-050200.
- (2) MACHINE FLANGE AFTER WELDING & WELD INSPECTIONS HAVE BEEN COMPLETED.
- (3) GRIND OR MACHINE TO PROVIDE I.D. OF 4.970 MIN.
- (4) SPOTWELD ITEM 21 TO ITEM 23 AT APPROX 1/2 INCH INTERVALS AROUND CIRCUMFERENCE.
5. CLEAN ALL METAL SUBASSEMBLIES AND PARTS PER LAC 0170 AFTER COMPLETION OF WELD INSPECTION AND OTHER MFG. OPERATIONS.



ITEMS (1) & (2), -501 & -503 ASSY'S. [4]



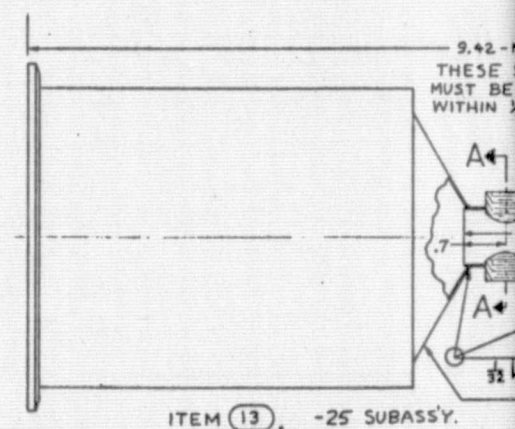
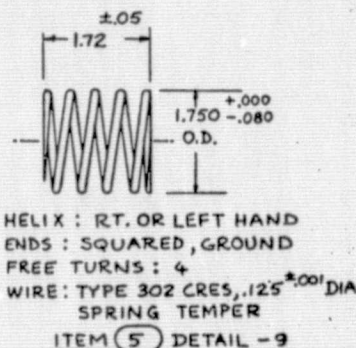
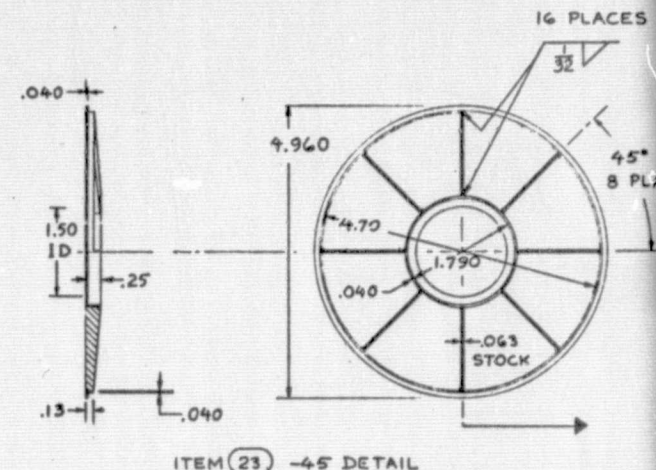
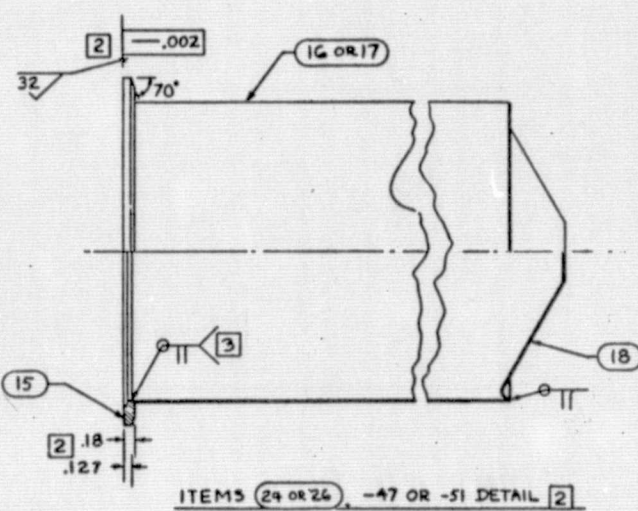
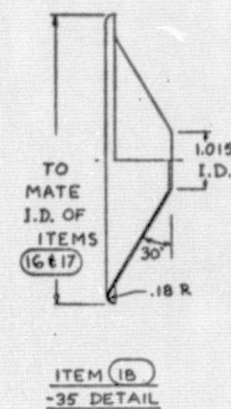
ITEM (6) -II DETAIL [2]

| ZONE | LTN | DESCRIPTION | DATE | APVD |
|---------|-----|--------------------------|---------|------|
| SHEET 2 | A | .063 SHEET STOCK WAS.032 | 5-23-73 | (2) |
| SHEET 1 | B | RELOCATED ITEM 22 | 7-6-73 | (2) |

| | | | | |
|---|------------|----------------------------------|--------------------------|----|
| 1 | -61 | END CLOSURE (PRE-SORB) | ITLMS 6, 30 | 31 |
| 1 | -59 | END DUCT (PRE) | ITEMS 11, 27 | 30 |
| 1 | -57 | END DUCT (POST) | ITEMS 12, 27 | 29 |
| 2 | | BOSS | 3/4 DIA ROD | 28 |
| 2 | 1 | FLANGE F 20010-C | 321/347 CRES | 27 |
| 1 | -51 | WELDMENT (POST-SORB) | 15-8 OR 17-4 P.H. CRES | 26 |
| 1 | | GROOVED TUBE FLANGE | ITEMS 17, 15, 18 | 25 |
| 1 | -47 | WELDMENT (PRE-SORB) | MM 5703-S-100 | 24 |
| 2 | 2 | -45 RETAINER | 321/347 CRES | 23 |
| 1 | -43 | VALVE-UNBOUNDED MICROFILMS WEB | MIL S-6721 | 22 |
| 3 | 2 | -41 SCREEN | 30 MESH .013 DIA WIRE | 21 |
| 1 | | BODY DUCT (POST) | 316 CRES | 20 |
| 1 | | BODY DUCT (PRE) | TUBING 1 O.D. X.049 WALL | 19 |
| 1 | -35 | FLARED CONE | .025" | 18 |
| 1 | -33 | CYL.(POST) | .025" | 17 |
| 1 | -31 | CYL.(PRE) | .025" ANNEALED 321 CRES | 16 |
| 1 | -29 | FLANGE | .187" TYPE 321-347 | 15 |
| 1 | -27 | BODY (POST) | ITEMS 20, 26, 27 | 14 |
| 1 | -25 | BODY (PRE) | ITEMS 19, 25, 28 | 13 |
| 1 | | EL DUCT (POST) | | 12 |
| 1 | | EL DUCT (PRE) | TUBING 1 O.D. X.049 WALL | 11 |
| 1 | -19 | SEAT | .187" TYPE 321-347 | 10 |
| 1 | -17 | CONE | .025" ANNEALED 321 CRES | 9 |
| 1 | -15 | FLANGE | .197" 321 347 | 8 |
| 1 | -13 | END CLOS (POST) | ITEMS 6, 29 | 7 |
| 1 | -11 | FLANGED END BELL | ITEMS 8, 9, 10 | 6 |
| 1 | -9 | SPRING | SEE DRWG. | 5 |
| 1 | | O-RING-PLASTIC & RUB. PRODS. CO. | PRP-568-161 | 4 |
| 1 | | HARMAN COUPLER AERQUIP CORP. | MV 88138-K-5-600 T | 3 |
| | -503 | POST-SORB.CAN. | 301 CRES | 2 |
| | CC-III-501 | PRE-SORB.CAN. | | 1 |

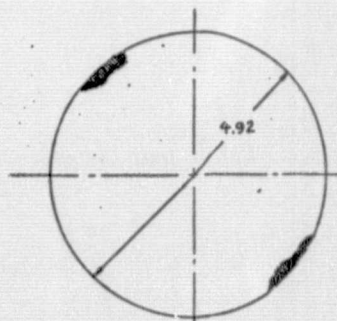
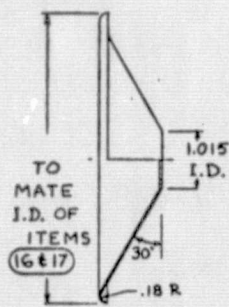
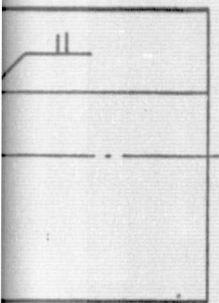
| | | | | | | | |
|-------------------|--|---|--|--------------|--|---|--|
| INTERPRET DWG PER | | UNLESS OTHERWISE SPECIFIED DIM ARE IN INCHES TOLERANCES ON: | | DATE 3-25-73 | | LOCKHEED MISSILES & SPACE COMPANY INC | |
| | | FRACTIONS: ± 1/16 | | OWN | | A SUBSIDIARY OF LOCKHEED AIRCRAFT CORPORATION | |
| | | DECIMALS: .XX ± .01 | | APVD | | SUNNYVALE, CALIFORNIA | |
| | | .XXX ± .010 | | ENGRD | | | |
| | | ANGLES: ± 2 DEG | | CHKD | | PRE- & POST-SORBENT CANISTERS | |
| | | | | APVD | | TCCS | |
| | | | | APVD | | SHEET CODE IDENT | |
| | | | | APVD | | DRAWING NO | |
| | | | | APVD | | -CC-III | |
| | | | | APVD | | REV | |
| | | | | APVD | | B | |
| NEXT ASSY | | USED ON | | CONTR | | SCALE | |
| APPLICATION | | CCA/CJ/PD | | CCA/CJ/PD | | SHEET 1 OF 3 | |

FOLDOUT FRAME B-16



| REVISIONS | | | | |
|-----------|-----|-------------|------|------|
| ZONE | LTR | DESCRIPTION | DATE | APVD |
| | | | | |

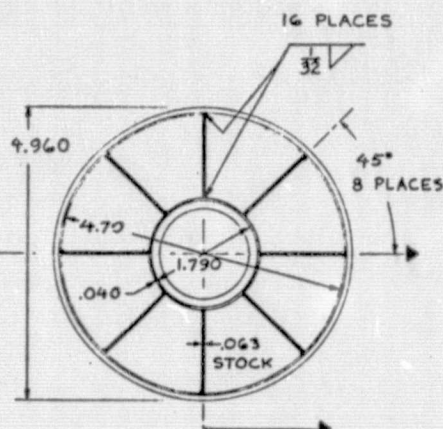
ITEM 16 = 6.21
ITEM 17 = 9.04



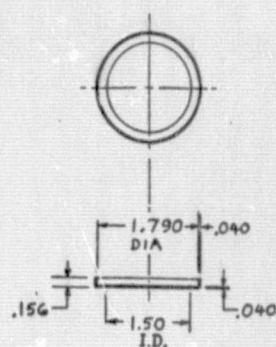
ITEM (21) - 41 DETAIL

31 E-33 DETAILS

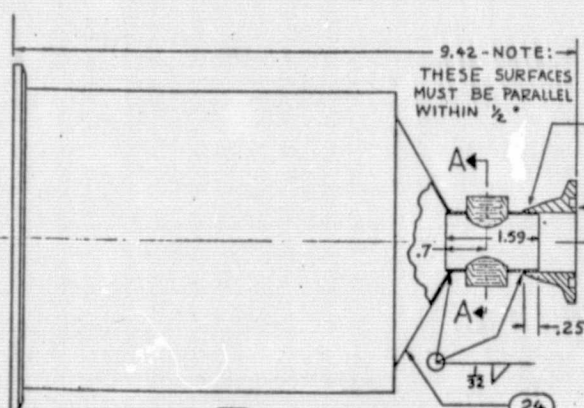
ITEM (18)
-35 DETAIL



ITEM (23) -45 DETAIL



ITEM (10) - 19 DETAIL

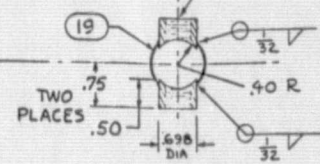


ITEM (13), -25 SUBASS'Y.

— 9.42 - NOTE: —
THESE SURFACES
MUST BE PARALLEL
WITHIN $\frac{1}{2}^{\circ}$

CHMFR, ITEM (25) 20° TO
— FACILITATE WELDING

28 TWO REQUIRED
THREAD $\frac{7}{16}$ -20
ONLY BREAK SHARP EDGE
AT START OF THRD.
DO NOT COUNTERSINK.



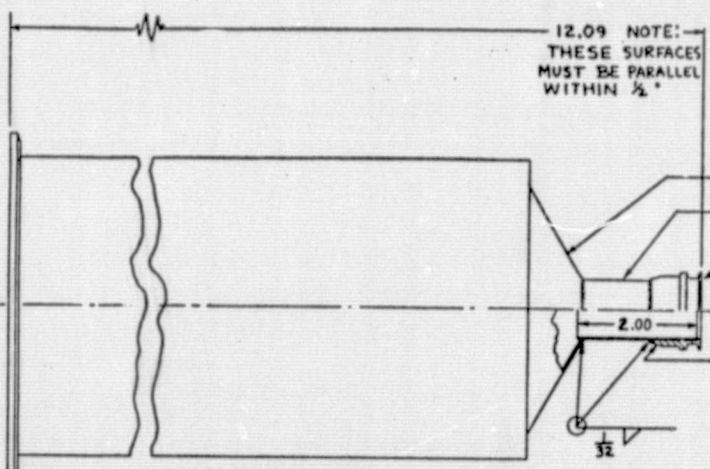
SECTION A-A

FOLDOUT FRAME 2

| | | | | | | | |
|------------|---|------------------------|--|--|------------------------|------------|---------------------|
| QTY REQD | CODE IDENT | PART OR IDENTIFYING NO | NOMENCLATURE OR DESCRIPTION | MATERIAL DESCRIPTION OR NOTE | MATERIAL SPECIFICATION | ZONE | ITEM NO |
| PARTS LIST | | | | | | | |
| DWG PER | UNLESS OTHERWISE SPECIFIED DIM ARE IN INCHES.TOLERANCES OR: FRACTIONS = ± 1/16 DECIMALS: .X = ± .1 .XX = ± .03 .XXX = ± .010 ANGLES = ± 2 DEG | | DATE 1-28-73 DWN APVD ENGNG CHER <i>18 Henry 8-27-73</i> APVD | LOCKHEED MISSILES & SPACE COMPANY, INC. A SUBSIDIARY OF LOCKHEED AIRCRAFT CORPORATION BUNNVIEW, CALIFORNIA | | | |
| USED ON | CONTR | | APVD | PRE- & POST-SORBENT CANISTERS | | SIZE E | CODE IDENT - CC-111 |
| CATION | CATION | | APVD | SCALE: FULL | | DRAWING NO | REV - B |
| | | | | | SHEET 2 OF 2 | | |

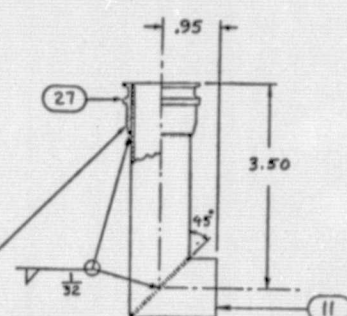
8 7 6 5 4

H
G
F
E
D
C
B
A

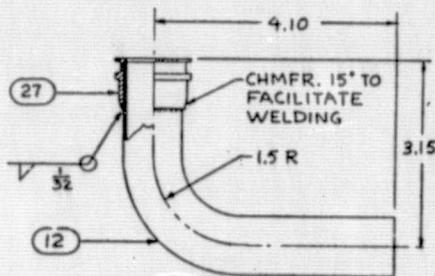


ITEM (14), -27 SUBASS'Y.

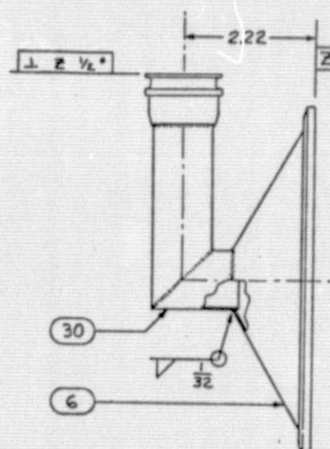
CHMFR. ITEM (27)
15° TO FACILITATE
WELDING



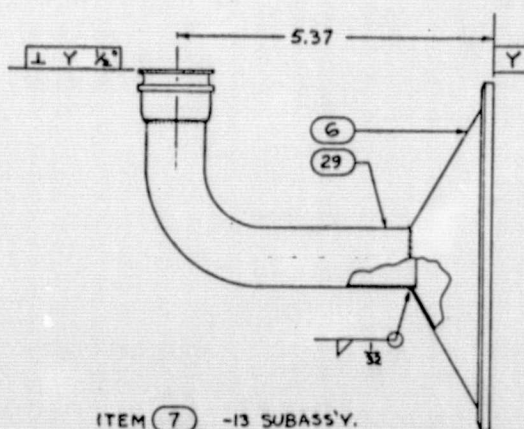
ITEM (30), -59 DETAIL



ITEM (29), -57 DETAIL

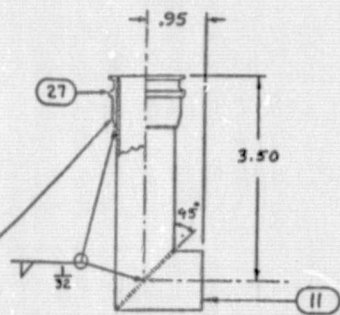


ITEM (31), -61 SUBASS'Y.

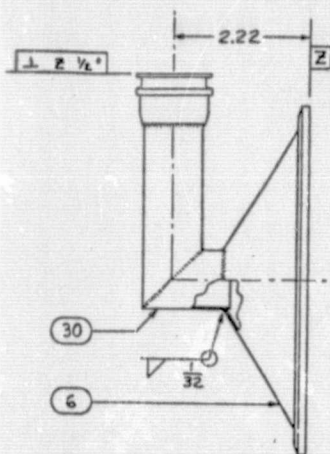


ITEM (7), -13 SUBASS'Y.

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OF POOR QUALITY



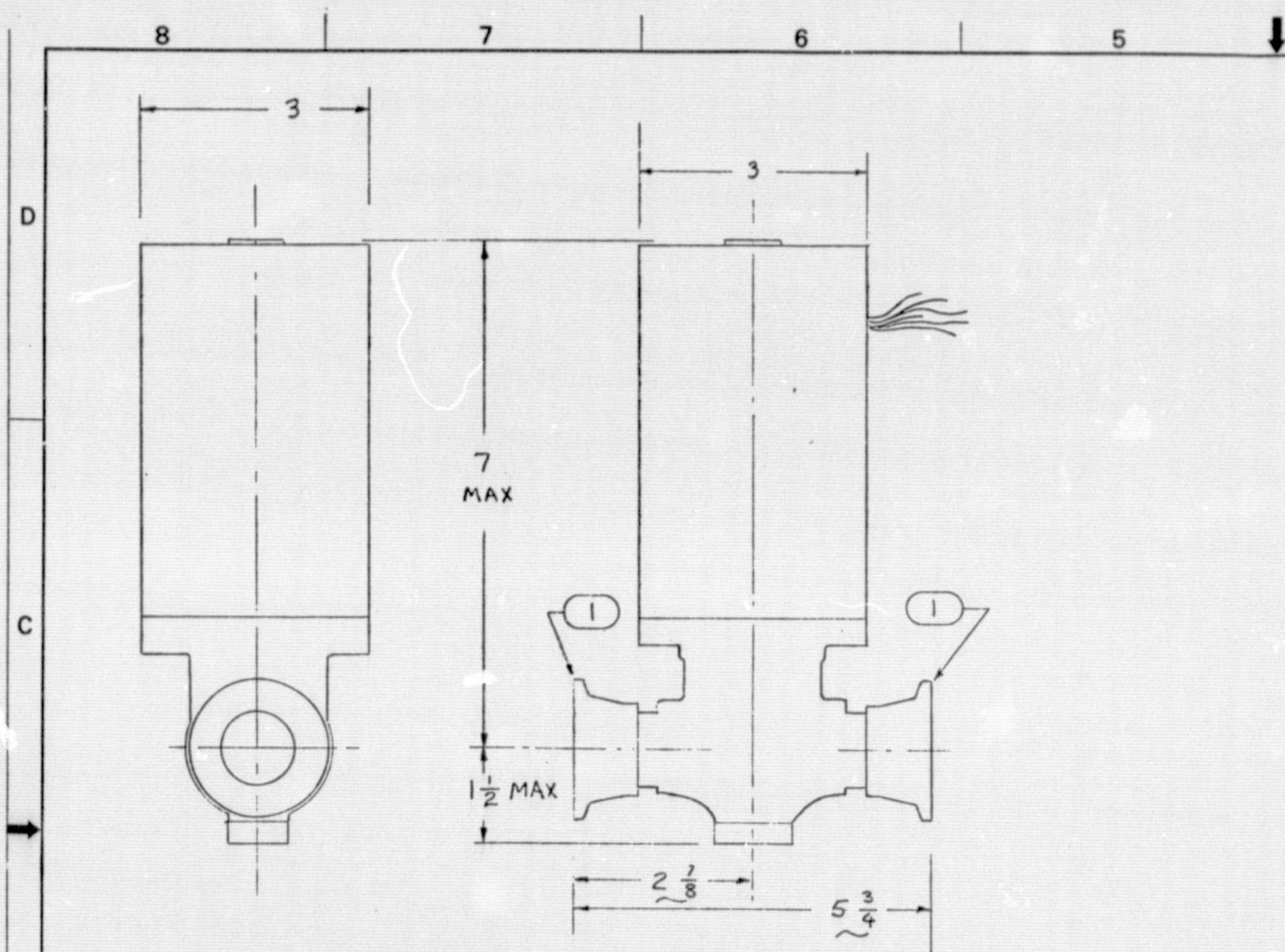
ITEM (30), -59 DETAIL



ITEM (31), -61 SUBASS'Y.

FOLDOUT FRAME

| QTY REQD | CODE IDENT | PART OR IDENTIFYING NO | NOMENCLATURE OR DESCRIPTION | MATERIAL DESCRIPTION OR NOTE | MATERIAL SPECIFICATION | ZONE | ITEM NO |
|---|------------|------------------------|--|------------------------------|--------------------------------|------|---------|
| PARTS LIST | | | | | | | |
| INTERPRET DWG PER | | | UNLESS OTHERWISE SPECIFIED DIM ARE IN INCHES. TOLERANCES ON: | | DATE 7-20-73 | | |
| | | | FRACTIONS = ± 1/16 | | DWN (11) | | |
| | | | DECIMALS: .XX = ± .1 | | APVD | | |
| | | | .XXX = ± .01 | | APVD | | |
| | | | ANGLES = ± 2 DEG | | ENGRG | | |
| | | | | | CHKD 2 1/2 7-20-73 | | |
| | | | | | APVD | | |
| NEXT ASSY USED ON APPLICATION | | | CONTR | | APVD | | |
| | | | CCA/CJ/PD | | APVD | | |
| LOCKHEED MISSILES & SPACE COMPANY, INC. A SUBSIDIARY OF LOCKHEED AIRCRAFT CORPORATION SUNNYVALE, CALIFORNIA | | | | | PRE- & POST- SORBENT CANISTERS | | |
| SIZE CODE IDENT | | | | | DRAWING NO | | REV |
| E | | | | | CC-111 | | B |
| SCALE 7/8" | | | | | SHEET 3 OF 3 | | |



REQUIREMENTS

1. WHEN CLOSED, (ENERGIZED) MUST BE VACUUM TIGHT TO .000001 TORR ON LOW PRES. SIDE.
2. EQUIP WITH POSITION INDICATOR SWITCH TO SIGNAL WHETHER VALVE IS SEATED OR OPEN.
3. POWER: 100 TO 104 VOLTS, DIRECT CURRENT.
4. FLUID : AIR, TEMP 290°F MAX.
5. AMBIENT TEMP : 125°F MAX.
6. VALVE BODY MAT'L. : ALUMINUM.
7. DIFFERENTIAL PRESSURE WHEN VALVE IS CLOSED : 10 P.S.I. IN ONE DIRECTION, 15 P.S.I. IN OTHER DIRECTION.
8. ELECTRIC LEAD WIRES TO BE TEFLON OR KAPTON INSULATED, EACH 3 FT. LONG : 2 COIL LEADS, 1 GROUND TO VALVE FRAME OR BODY, 3 SWITCH LEADS.
9. DESIGN FOR CONTINUOUS DUTY (ENERGIZED).
10. $C_v = 12$ MINIMUM.
11. VALVE MUST OPERATE IN ALL ORIENTATIONS.

5

4

3

2

1

LIMITED
CALENDAR
LIFELIMITED
OPERATING
LIFE

| REVISIONS | | | |
|-----------|-----|---|---------|
| ZONE | LTR | DESCRIPTION | DATE |
| | A | ADDED: REQ'T 11. 7" MAX WAS 6 $\frac{13}{16}$. 1 $\frac{1}{2}$ " MAX WAS 1 $\frac{1}{4}$. 5 $\frac{3}{4}$ " WAS 4 $\frac{3}{4}$. 2 $\frac{7}{8}$ " WAS 2 $\frac{3}{8}$. SCALE "NONE" WAS "FULL" NOTE 3 WAS 100 V.D.C. | 3/11/73 |
| | | | (w) |

D

C

B

| 2 | | MFM5702A100 | AEROQUIP - MARMAN | FLANGE FOR 1 IN. DIA. TUBING | 6061 T6 | | (1) |
|-------------|---------------|----------------------------|--------------------------------|---------------------------------|---------------------------|------|-------------|
| QTY REQD | CODE IDENT | PART OR IDENTIFYING NO. | NOMENCLATURE OR DESCRIPTION | MATERIAL DESCRIPTION OR NOTE | MATERIAL SPECIFICATION | ZONE | ITEM NO. |

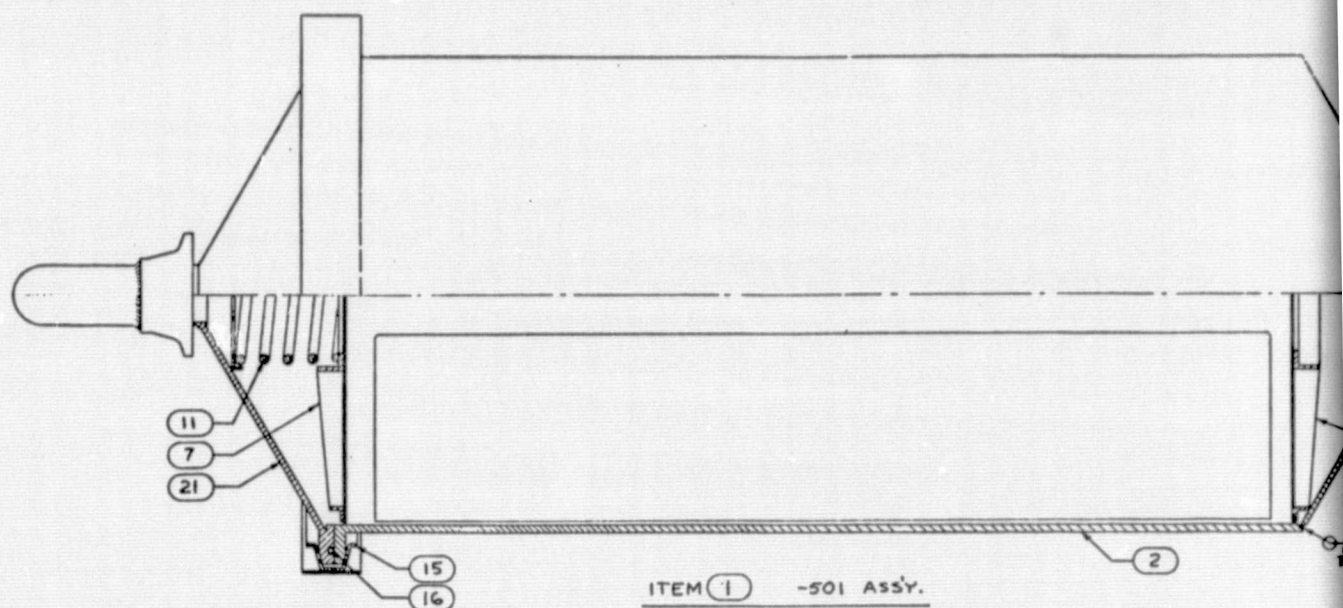
PARTS LIST

| | | | | | | | |
|-------------------|--|--|-------------|---|-------------|------------|--------------|
| INTERPRET DWG PER | | UNLESS OTHERWISE SPECIFIED DIM. ARE IN INCHES. TOLERANCES ON: FRACTIONS = $\pm 1/16$ DECIMALS: .X = $\pm .1$.XX = $\pm .03$.XXX = $\pm .010$ ANGLES = ± 2 DEG | DATE 2-9-73 | LOCKHEED MISSILES & SPACE COMPANY A GROUP DIVISION OF LOCKHEED AIRCRAFT CORPORATION SUNNYVALE, CALIFORNIA | | | |
| | | | DR (w) | SOLENOID VALVE - TCCS (NORMALLY OPEN, 2 WAY) DESIGN CONTROL DRWG. | | | |
| NEXT ASSY | | USED ON | CONTR | APPD | SIZE | CODE IDENT | DRAWING NO. |
| APPLICATION | | CCA/CEI | APPD | D | | | CC-112 |
| | | | | | SCALE: NONE | | SHEET 1 OF 1 |

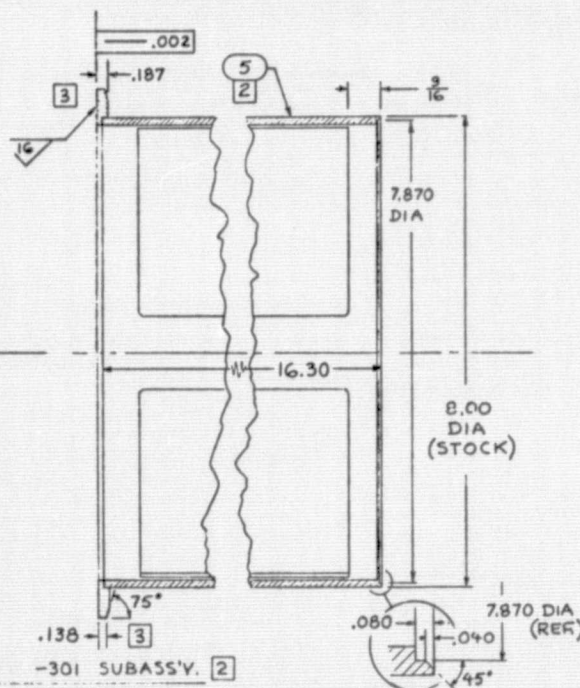
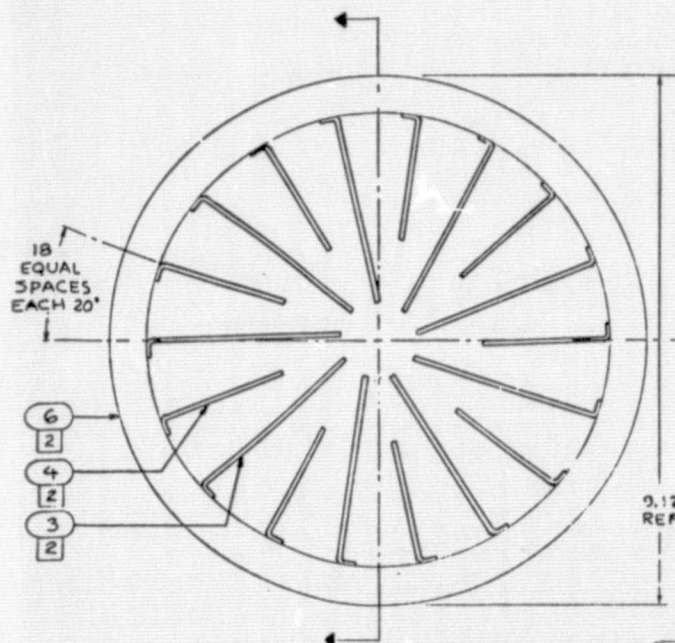
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B-19

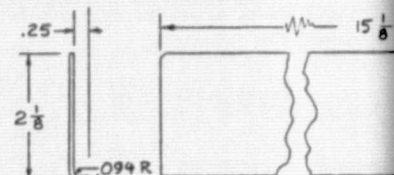
FOLDOUT FRAME 2



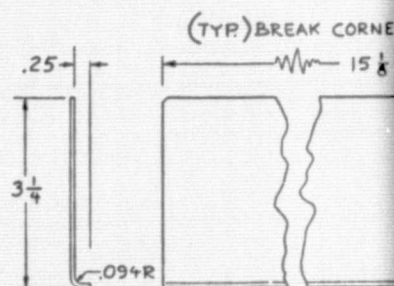
ITEM 1 -501 ASSY.



ITEM 2 -301 SUBASSY. 2



ITEM 4 -3 DETAIL

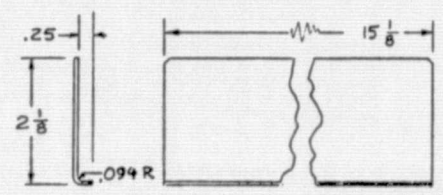
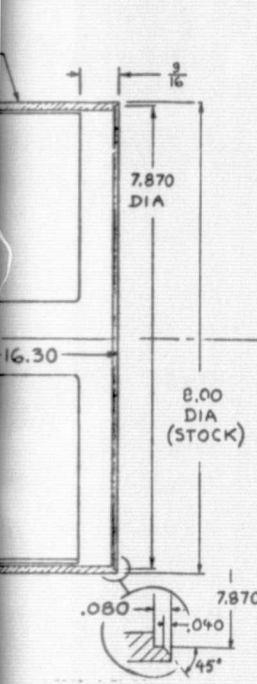
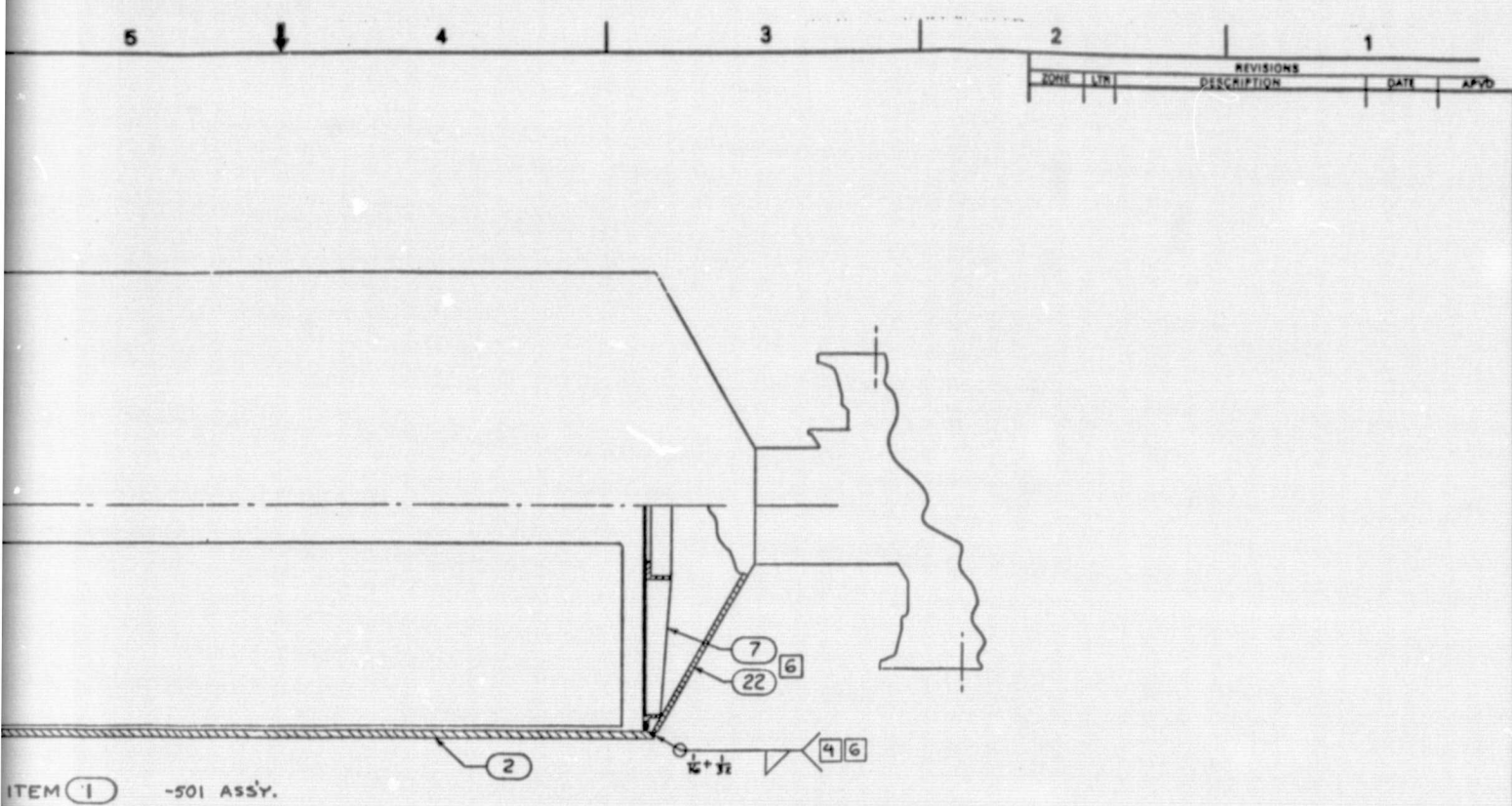


ITEM 3 -1 DETAIL

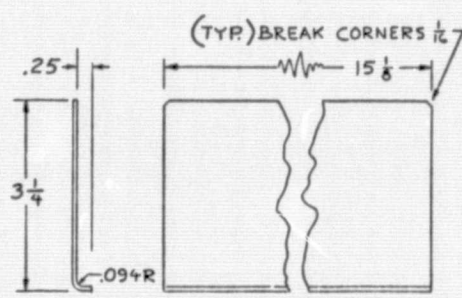
NOTES

- 1 SELECT PREMIUM TUBING FOR BEST ROUNDNESS AVAILABLE (ITEM 5).
- 2 DIP BRAZE ITEMS 3, 4 & 6 TO ITEM 5 USING ALLOY HAVING MELTING POINT ABOVE 700°F. DO NOT HEAT TREAT AFTER BRAZING. FINS (ITEMS 3 & 4) ARE TO HAVE CONTINUOUS METAL CONTACT WITH CYLINDER (ITEM 5) OVER THEIR ENTIRE LENGTH. FLANGE BRAZE MUST BE VACUUM TIGHT. MACHINE FLANGE AFTER DIP BRAZING. MACHINE FACE OF FLANGE FIRST, AND .138 x 75° ON BACKSIDE LAST.
- 3 WELD PER LAC 3853-050200, VACUUM TIGHT. SPOTWELD ITEM 8 TO ITEM 9 AROUND CIRCUMFERENCES AT INTERVALS OF 3/4 IN. OR LESS. THEN ANODIZE PER LAC 0494 TYPE I.
- 4 ITEM 7 MUST BE IN PLACE BEFORE ITEM 22 IS WELDED TO ITEM 2.
- 5 ANODIZE PER LAC 0494 TYPE I. THEN GRIND OFF ANODIZE LOCALLY FROM ITEM 10 TO ENABLE WELDING IT TO ITEM 13 AT 3 OR 4 PLACES.
- 6 MACHINE FLANGE AFTER WELDING.

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ITEM 4 -3 DETAIL



ITEM 3 -1 DETAIL

RE ITEM 22
WHEN GRIND
M (10) TO
13 AT 3
NG.

| QTY | QTY PER | QTY RECD | CODE | PART OR IDENTIFYING NO | NOMENCLATURE OR DESCRIPTION | MATERIAL DESCRIPTION OR NOTE | MATERIAL SPECIFICATION | ZONE | ITEM NO |
|-----|---------|----------|------|------------------------|-----------------------------|------------------------------|--------------------------------|----------------------------|---------|
| 1 | | | | | AL SHEET | .080 THICK | QA250/11 | | 30 |
| 1 | | | | | AL TUBING | 2 IN. OD X .065 W | GOGI | | 29 |
| 1 | | | | | 1 IN. OD X .049 W | GOGI | WWT 700/6 | | 28 |
| 1 | | | | | | | | | 27 |
| 1 | | | | | AL TUBING | 2 IN. OD X .065 W | GOGI TG | | 26 |
| 1 | | | | | NPT BOSS | .625 DIA ROD | GOGI T GSI | | 25 |
| 2 | | | | | MS BOSS | .625 DIA ROD | GOGI T GSI | | 24 |
| 1 | | | | | GROOVED TUBE | AEROGUIP-MARHAN | MFM 5703-A-200 | GOGI | 23 |
| 1 | | | | | FLANGE | SEE DRWG. | | | 22 |
| 1 | | | | | TEE END SUBASSY | ITEMS 17, 20 | | | 21 |
| 1 | | | | | FLANGED END SUBASSY | ITEMS 18, 19 | | | 20 |
| 1 | | | | | BENT TUBE | AEROGUIP-MARHAN | MFM 5703-A-100 | GOGI | 19 |
| 1 | | | | | GROOVED TUBE | FLANGE | GOGI | | 18 |
| 1 | | | | | AL TUBING | 1 IN. OD X .049 W | WWT 700/6 | | 17 |
| 1 | | | | | SUBASSY | ITEMS 10, 12, 13 | | | 16 |
| 1 | | | | | O RING | PARGO PRP-528-248 | LOW COMPRESS VITN 9003-75 | | 15 |
| 1 | | | | | MARHAN CLAMP | MV 8816 K3-925 T | CRES | | 14 |
| 1 | | | | | -23 | ALUM GOGI | | | 13 |
| 1 | | | | | -21 | CONG | ALUM GOGI | | 12 |
| 1 | | | | | -19 | FLANGE | ALUM GOGI T | | 11 |
| 1 | | | | | -17 | SPRING | SEE DRWG. | | 10 |
| 1 | | | | | -15 | RING | ALUM GOGI T | | 9 |
| 2 | | | | | -13 | RETAINER SPIDER | ALUM GOGI | | 8 |
| 2 | | | | | -11 | SCREEN | CAMBRIDGE WRE CLOTH CO, MARHAN | ALUM 18 MESH .018 WIRE DIA | 7 |
| 2 | | | | | -9 | RETAINER SUBASSY | ITEMS 8 & 9 | | 6 |
| 1 | | | | | -7 | FLANGE | GOGI T G ALUM | | 5 |
| 1 | | | | | -3 | CYLINDER | 8" O.D. X .065 W | GOGI T G ALUM | 4 |
| 9 | | | | | -1 | SHORT FIN | .062 SHEET | | 3 |
| 9 | | | | | -1 | LONG FIN | .062 SHEET | | 2 |
| 1 | | | | | -301 | CYL. SUBASSY | GOGI T-O ALUM | | 1 |
| | | | | | CC-113 -501 | REGEN. BED | | | |

INTERPRET DWG PER

UNLESS OTHERWISE SPECIFIED DIM ARE IN INCHES. TOLERANCES ON:

FRACTIONS: $\pm 1/16$

DECIMALS: $\pm .001$

ANGLES: ± 2 DEG

DATE 3-23-73

OWN (SIA)

APVD

ENGRG

CHGR

APVD

APVD

LOCKHEED MISSILES & SPACE COMPANY, INC
A SUBSIDIARY OF LOCKHEED AIRCRAFT CORPORATION
SUNNYVALE, CALIFORNIA

REGENERABLE BED
CANISTER

TCCS

SIZE CODE IDENT

DRAWING NO

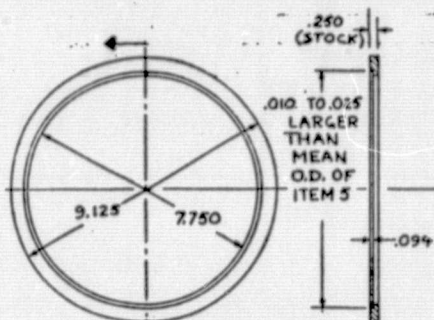
REV

CC-113

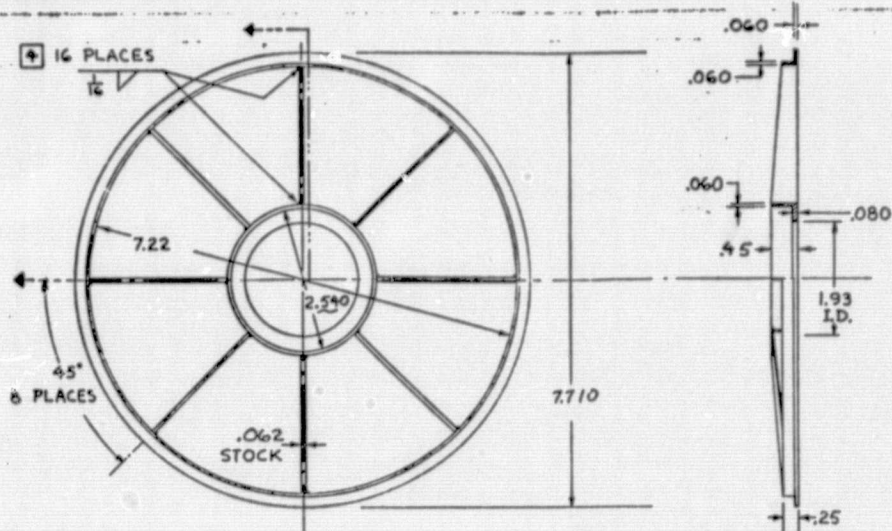
SCALE

FUEL OR NOTED

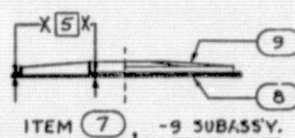
SHEET 1 OF 3



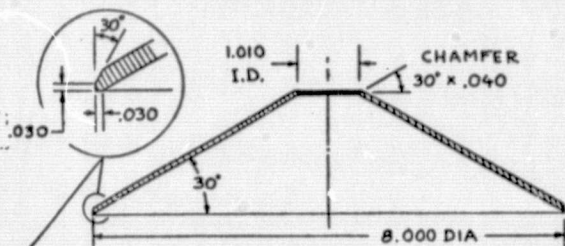
ITEM (6), -7 DETAIL (HALF SCALE)



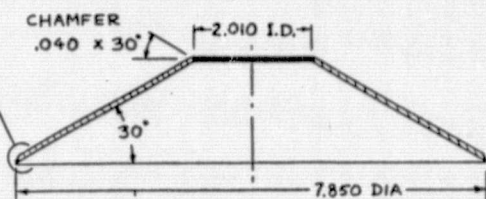
ITEM (9), -13 DETAIL



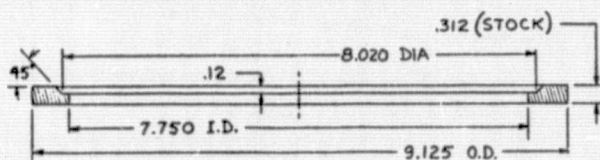
ITEM (7), -9 SUBASSY.



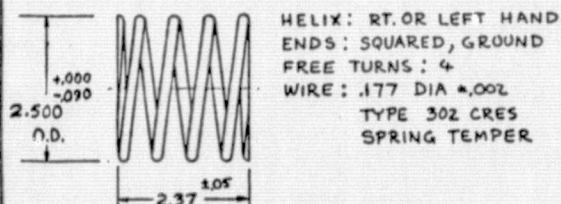
CROSS-SECTION VIEW, ITEM (13), -21 DETAIL



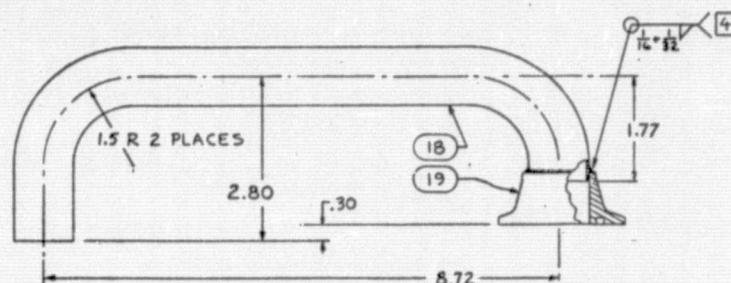
CROSS-SECTION VIEW, ITEM (14), -23 DETAIL



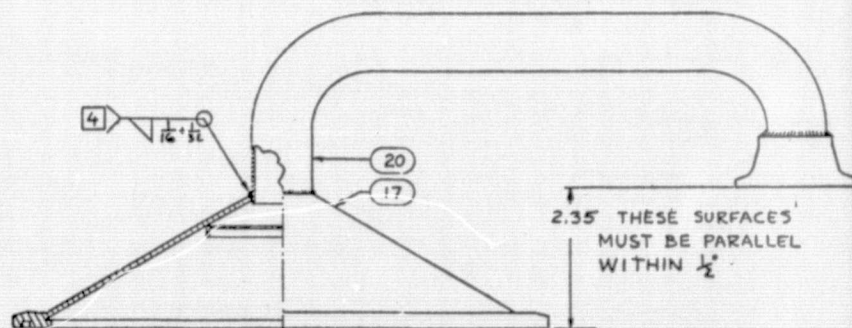
CROSS-SECTION VIEW, ITEM (12), -19 DETAIL



ITEM (11), -17 DETAIL

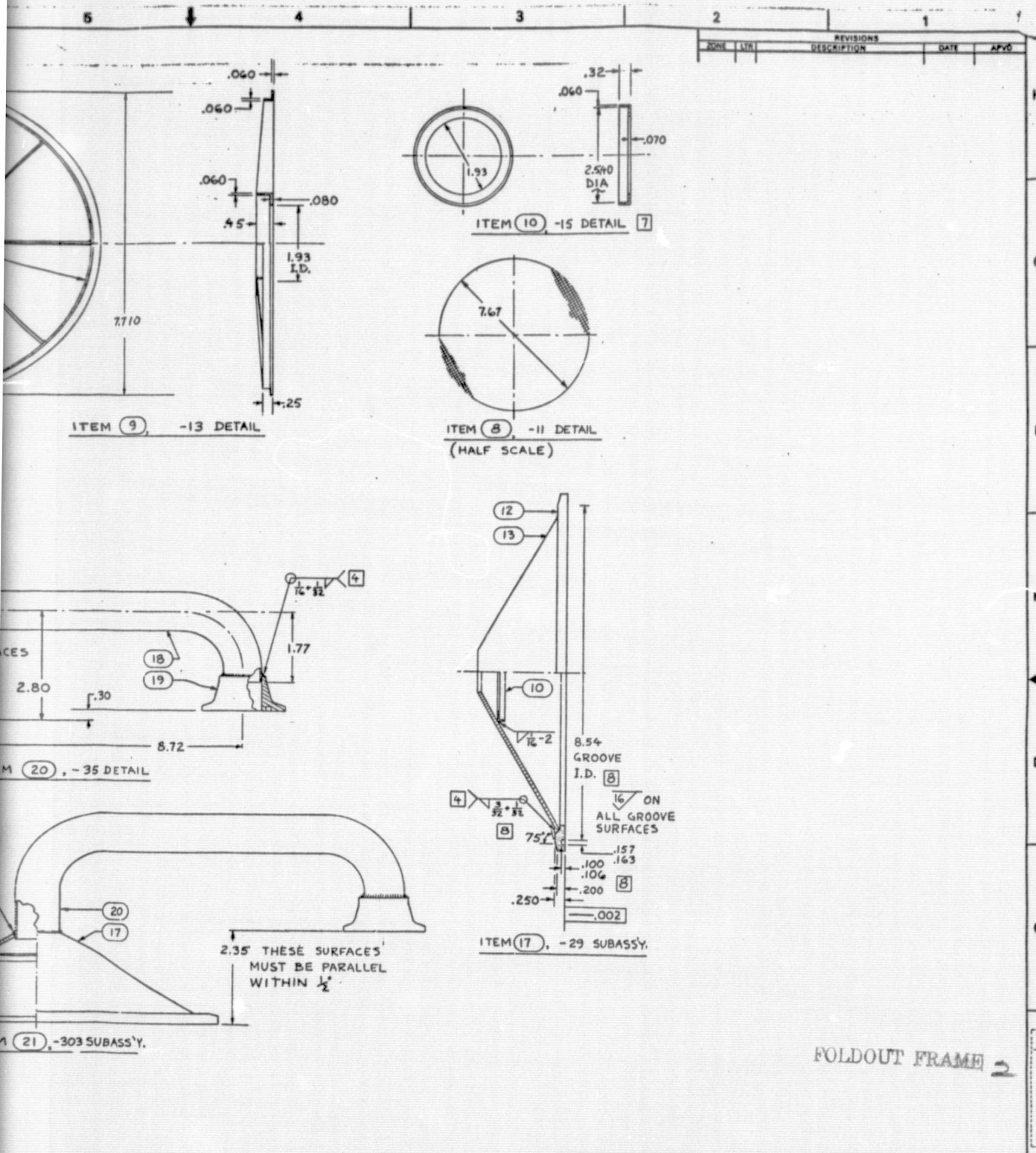


ITEM (20), -35 DETAIL



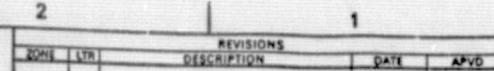
ITEM (21), -303 SUBASSY.

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FOLDOUT FRAME 2

| QTY REQD | CODE IDENT | PART OR IDENTIFYING NO | NOMENCLATURE OR DESCRIPTION | MATERIAL DESCRIPTION OR NOTE | MATERIAL SPECIFICATION | ZONE | ITEM NO |
|-------------------|------------|------------------------|---|------------------------------|---|------|---------|
| PARTS LIST | | | | | | | |
| INTERPRET DWG PER | | | DATE 3-23-73 | | LOCKHEED MISSILES & SPACE COMPANY INC | | |
| | | | DWN (JLT) | | A SUBSIDIARY OF LOCKHEED AIRCRAFT CORPORATION | | |
| | | | | | SUNNYVALE, CALIFORNIA | | |
| | | | UNLESS OTHERWISE SPECIFIED DIM ARE IN INCHES TOLERANCES ON: | | REGENERABLE BED CANISTER | | |
| | | | FRACTIONS = ± 1/16 | | TCCS | | |
| | | | DECIMALS = ± .01 | | SIZE CODE IDENT DRAWING NO | | |
| | | | ANGLES = ± 2 DEG | | E CC-113 | | |
| NEXT ASSY USED ON | | | CONTR | | SCALE FULL OR NOTED | | |
| APPLICATION | | | CCA/CI/FD | | SHEET 2 OF 3 | | |



| | | | | |
|-------------------|---------|--|---|---|
| INTERPRET DWG PER | | UNLESS OTHERWISE SPECIFIED DIM ARE IN INCHES. TOLERANCES ON: FRACTIONS: $\pm 1/16$ DECIMALS: $X \pm .1$ $.XX \pm .03$ $.XXX \pm .010$ ANGLES ± 2 DEG | DATE 3-23-73 DWN (Jed) APVD APVD ENGRG CHKD / A. Blasing 3-27-73 | LOCKHEED MISSILES & SPACE COMPANY, INC. A SUBSIDIARY OF LOCKHEED CORP. AERIAL CORPORATION SUNNYVALE, CALIFORNIA |
| NEXT ASY | USED ON | CONTR | APVD | REGENERABLE BED CANISTER |
| APPLICATION | | CCA/CUB | APVD | SIZE E CODE IDENT DRAWING NO. CC-113 REV |
| | | | | SCALE 1:1 SCALE SHEET 3 OF 4 |

NOTES

1. LOCKHEED WILL FURNISH THE GAMAH FLANGES TO DYNAMIC AIR ENG. INC.

2. PERFORMANCE SPECS. TO BE SPECIFIED ELSEWHERE

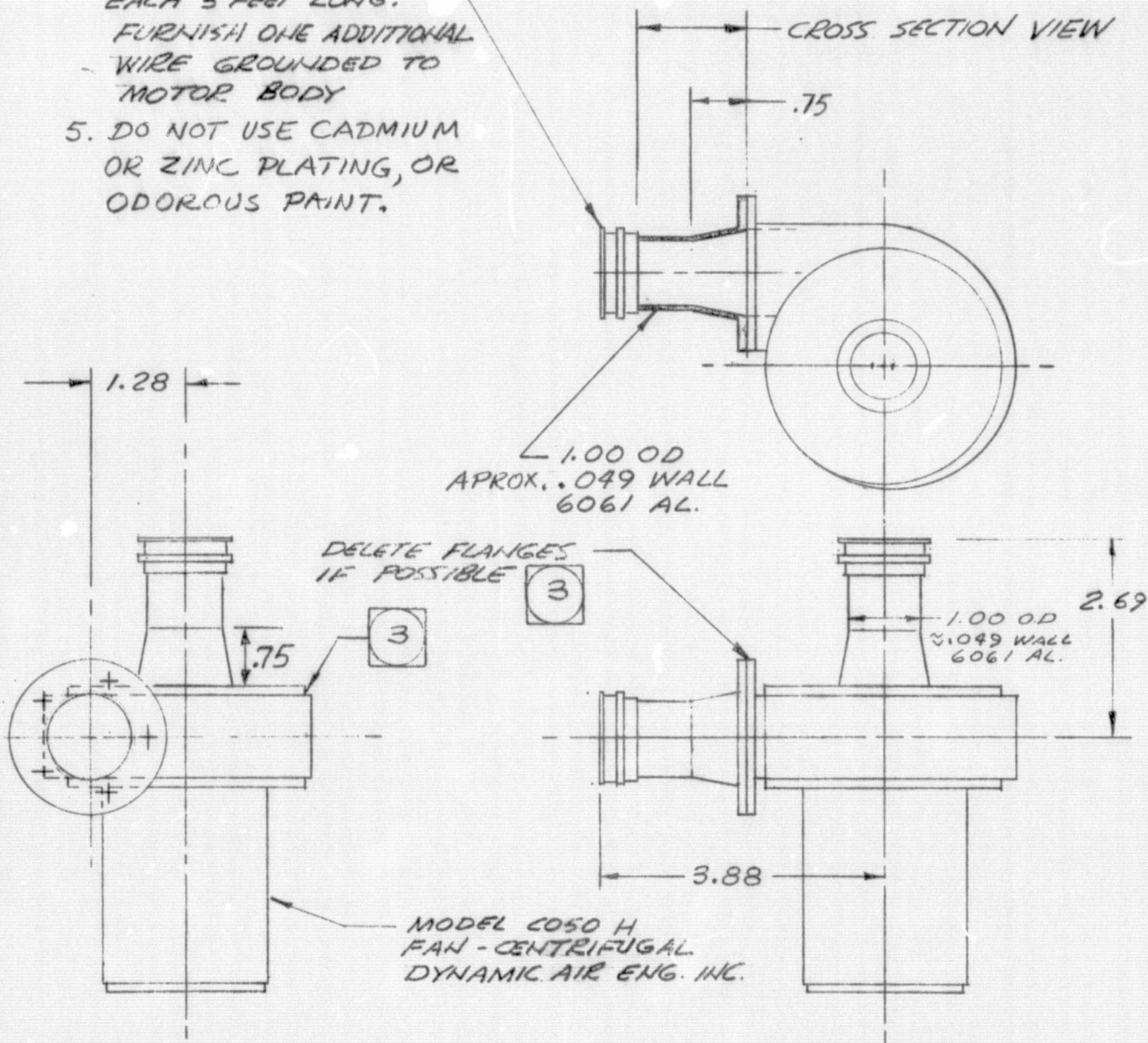
3. JOINTS TO BE SEALED USING GASKET OR OTHER MEANS

4. ELECTRIC LEAD WIRES TO BE TEFLON OR KAPTON INSULATED, EACH 3 FEET LONG. FURNISH ONE ADDITIONAL WIRE GROUNDED TO MOTOR BODY

5. DO NOT USE CADMIUM OR ZINC PLATING, OR ODOROUS PAINT.

F20210A OR F1185-100 BX FLANGE
GAMAH - DIV. OF STANLEY AVIATION
DENVER COLO. - TYP 2 PLACES

1



REGENERABLE BED BLOWER

CC-114-B REV. 4-11-73 aw

SCALE 1/2 3-19-73

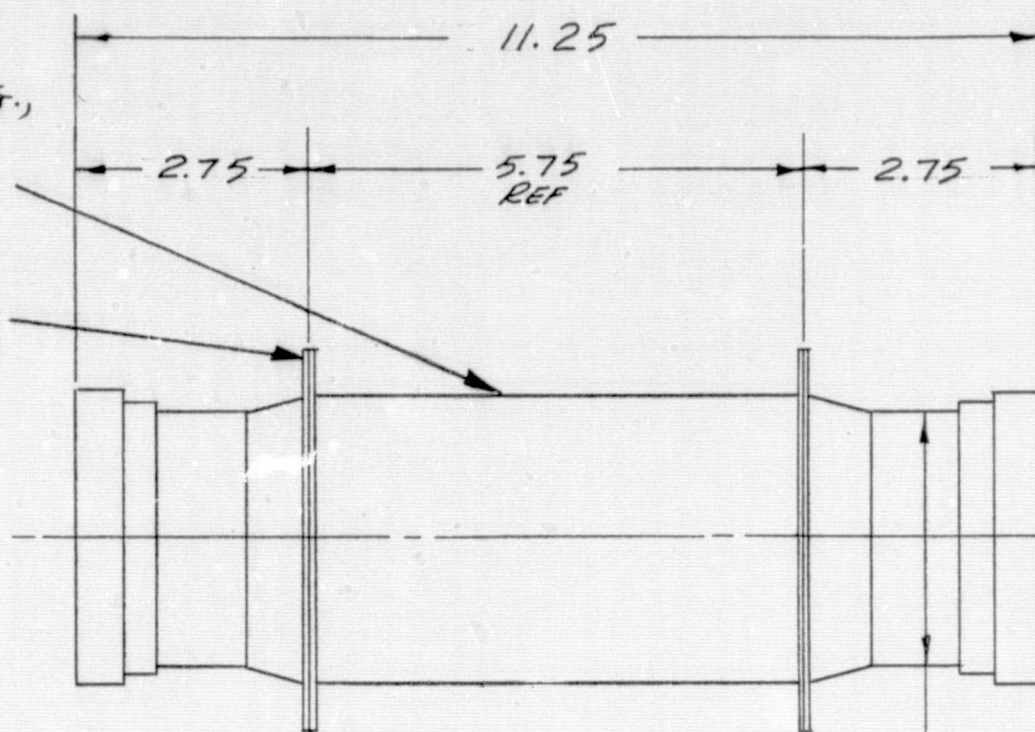
R.B.M

LMSC - SUNNYVALE, CALIF.

DYNAMIC AIR ENG.,
INC. VANE AXIAL
FAN M3192 A-1A

OMIT FLANGES
IF POSSIBLE

3



3.00 O.D.
.049 WALL
6061 AL
2 PLACES

5. DO NOT USE CADMIUM OR ZINC PLATING, OR
ODOROUS PAINT.

4. ELECTRIC LEAD WIRES TO BE TEFLON OR KAPTON
INSULATED. FURNISH ONE
ADDITIONAL WIRE GROUNDED TO MOTOR BODY.

3

JOINTS TO BE SEALED USING GASKET OR OTHER MEANS

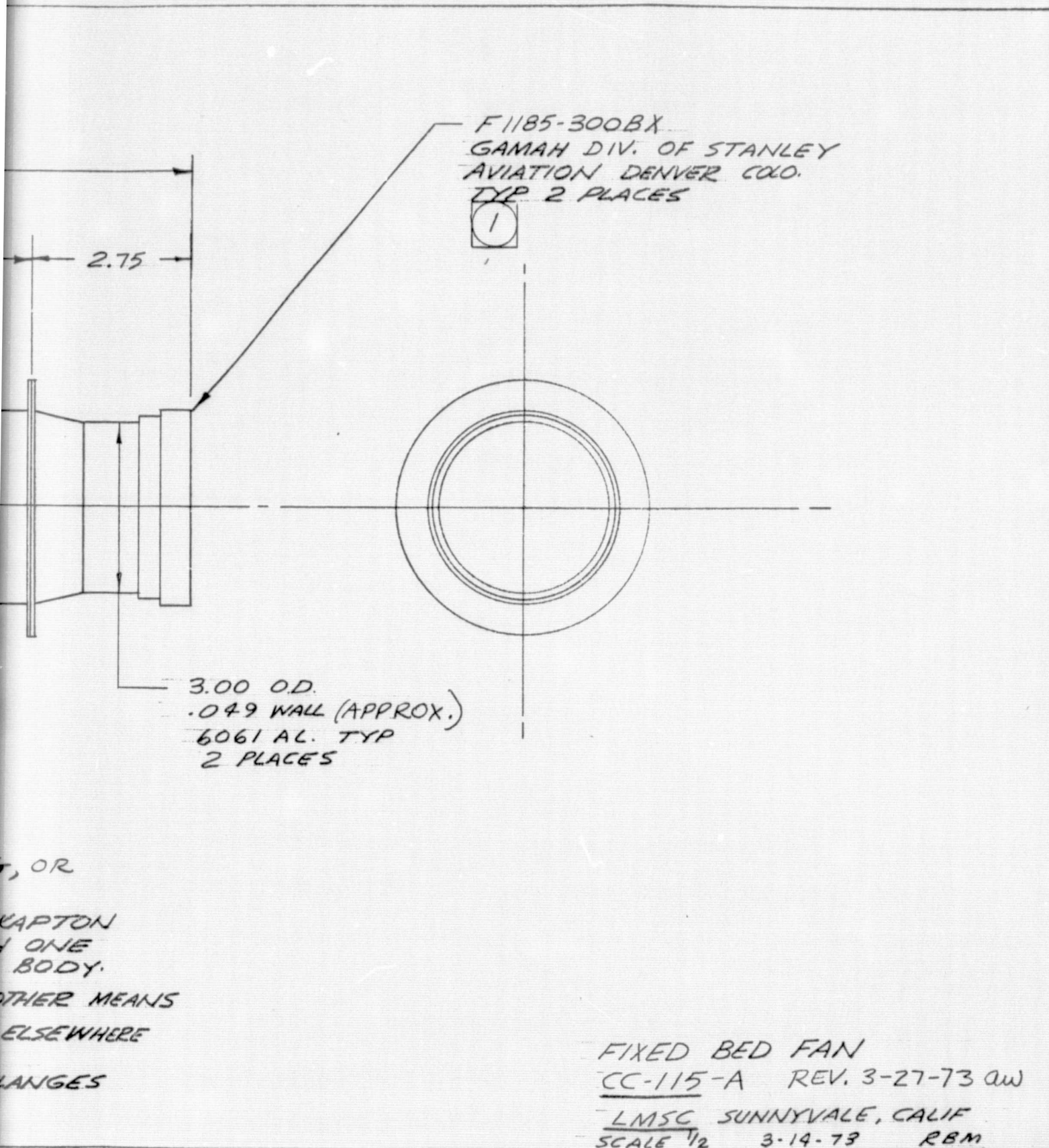
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PERFORMANCE SPECS. TO BE SPECIFIED ELSEWHERE

1

LOCKHEED WILL FURNISH THE GAMAH FLANGES
TO DYNAMIC AIR ENG. INC.

NOTES



4

3

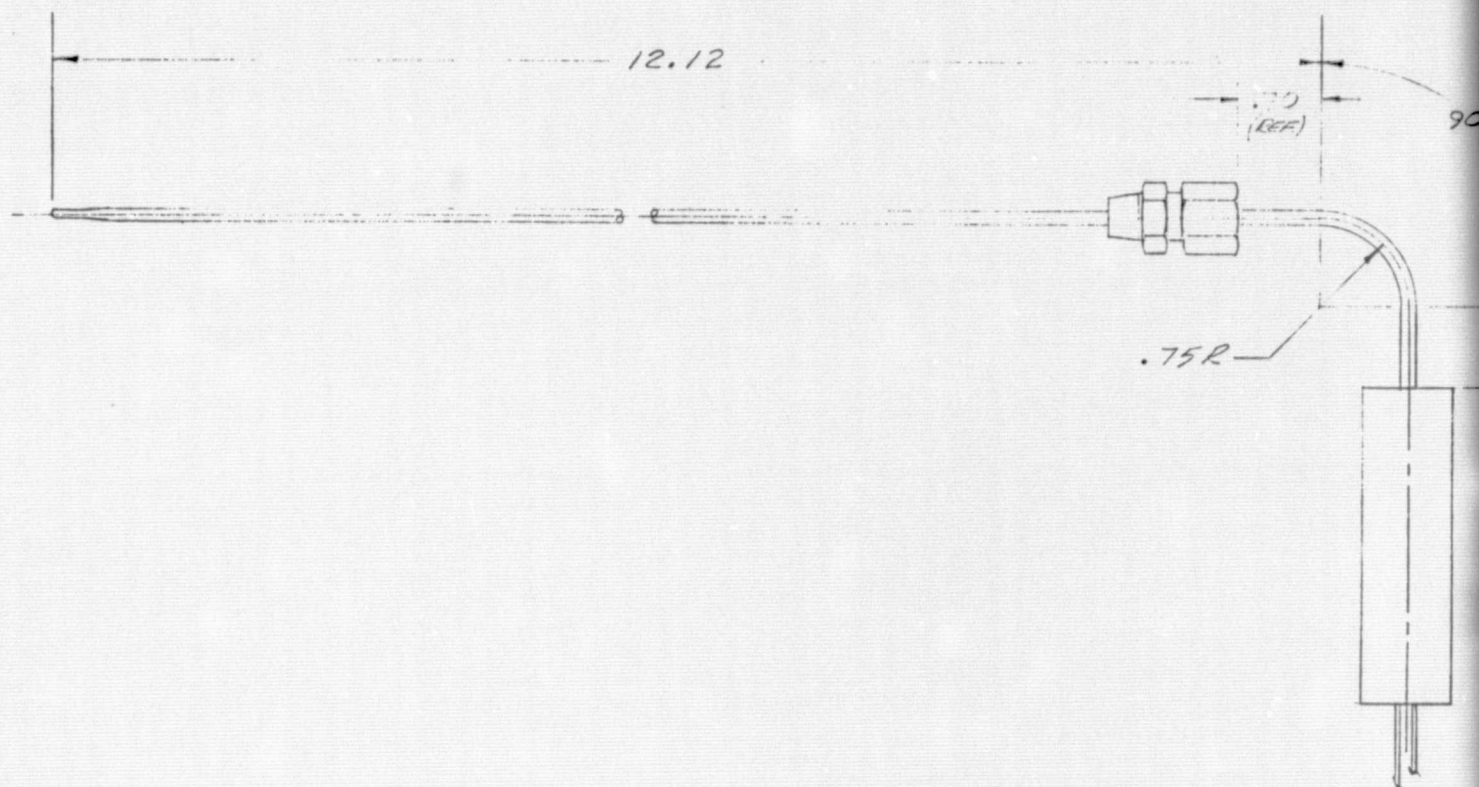
LIMITED
CALENDAR
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OPERATI
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1

| 1 | | K-5512-UR-QEHT-MPG-12 | NO |
|-------------|---------------|----------------------------|----|
| QTY REQD | CODE IDENT | PART OR IDENTIFYING NO. | |

1 PURCHASE FROM CONIAX - SUBSIDIARY OF
ESTERLINE CORP. BUFFALO, N.Y.
LOCAL PER INSTRUMENT LABORATORY
644 EMERSON ST. PALO ALTO, CALIF.
94303 PHONE 415.528-1040

NOTES:

| INTERPRET DWG PER | | UNLESS OTHERWISE SPECIFIED DIM. ARE IN INCHES. TOLERANCES ON: | DA |
|-------------------|---------|---|----|
| | | | |
| | | FRACTIONS = $\pm 1/16$ | DR |
| | | DECIMALS: .X = $\pm .1$ | AP |
| | | .XX = $\pm .03$ | AP |
| | | .XXX = $\pm .010$ | EN |
| | | ANGLES = ± 2 DEG | CH |
| | | CONTR | AF |
| NEXT ASSY | USED ON | CCA/CEI | AF |
| APPLICATION | | | |

FORM LMSC 1512C-7 PRINTED ON LMSC CODE: 3

FOLDOUT FRAME



2

1

LIMITED
CALENDAR
LIFE

LIMITED
OPERATING
LIFE

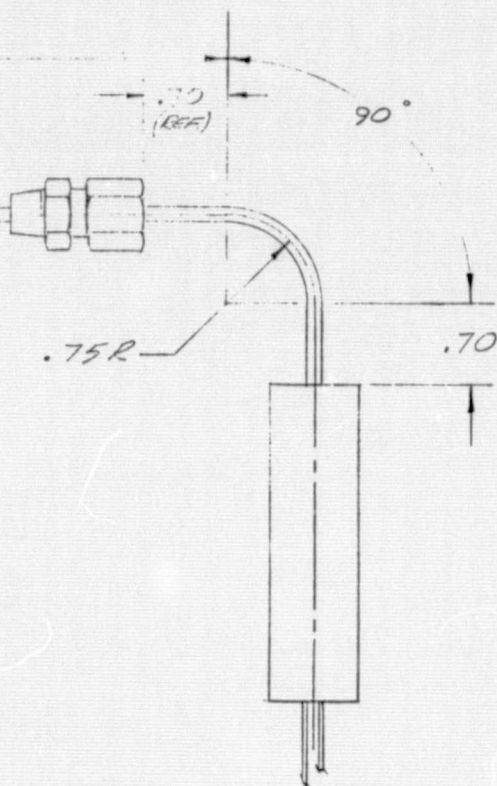
ZONE LTR

REVISIONS
DESCRIPTION

DATE APPD

D

C



B

1

| 1 | | K-5512-UR-QDHT-MPG-125-A-T-17 THERMOCOUPLE ASSY | | | | | |
|----------|------------|---|-----------------------------|------------------------------|------------------------|------|----------|
| QTY REQD | CODE IDENT | PART OR IDENTIFYING NO. | NOMENCLATURE OR DESCRIPTION | MATERIAL DESCRIPTION OR NOTE | MATERIAL SPECIFICATION | ZONE | ITEM NO. |

PARTS LIST

INTERPRET DWG PER

UNLESS OTHERWISE
SPECIFIED DIM. ARE IN
INCHES. TOLERANCES ON:

FRACTIONS = $\pm 1/16$
DECIMALS: .X = $\pm .1$
.XX = $\pm .03$
.XXX = $\pm .010$
ANGLES = ± 2 DEG

DATE 16 MARCH 1973

DR R.B. MAHLE

APPD

APPD

ENGRG

CHK aw

APPD

APPD

LOCKHEED MISSILES & SPACE COMPANY
A GROUP DIVISION OF LOCKHEED AIRCRAFT CORPORATION
SUNNYVALE, CALIFORNIA

THERMOCOUPLE ASSY
REGENERABLE BED

TCCS

ASSY USED ON
APPLICATION

CONTR
CCA/CEI

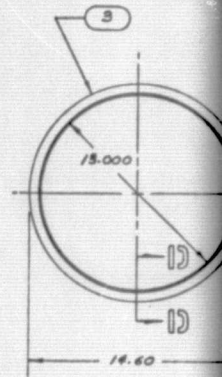
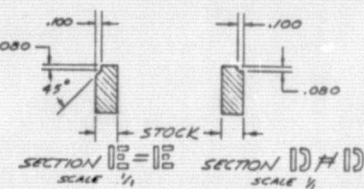
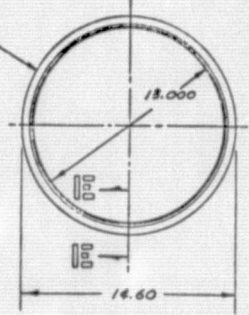
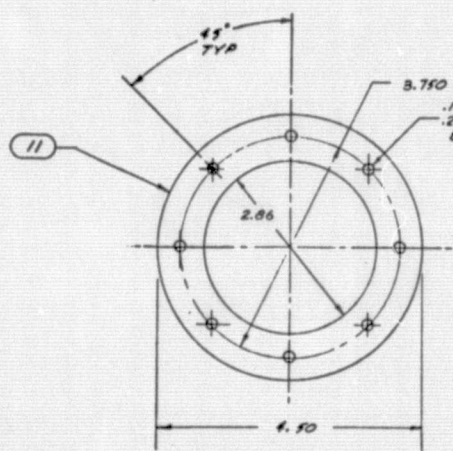
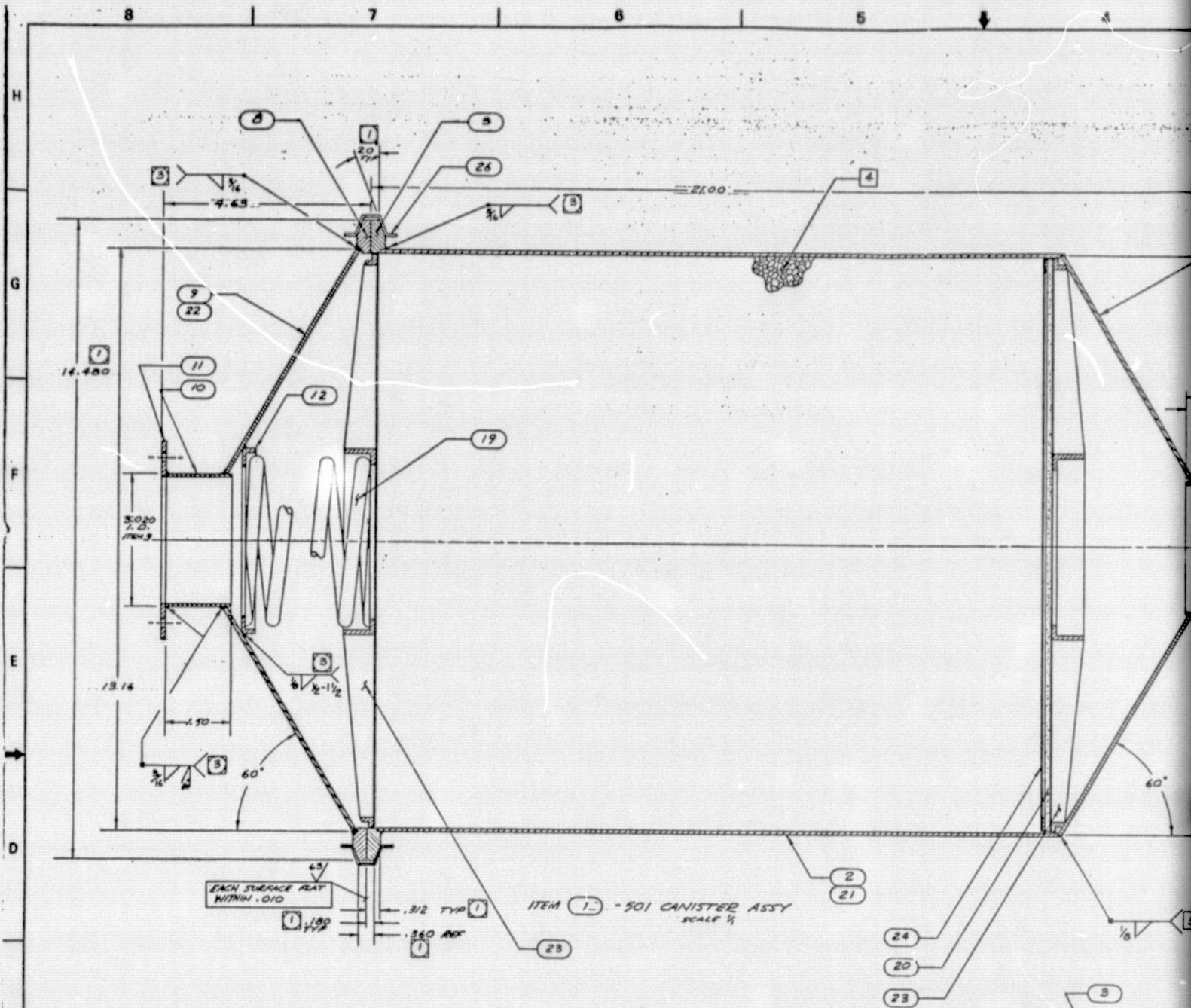
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|-----------|------------|--------------|-----|
| C | | CC-116 | - |
| SCALE 1/1 | | SHEET 1 OF 1 | |

A



B-25

FOLDOUT FRAME



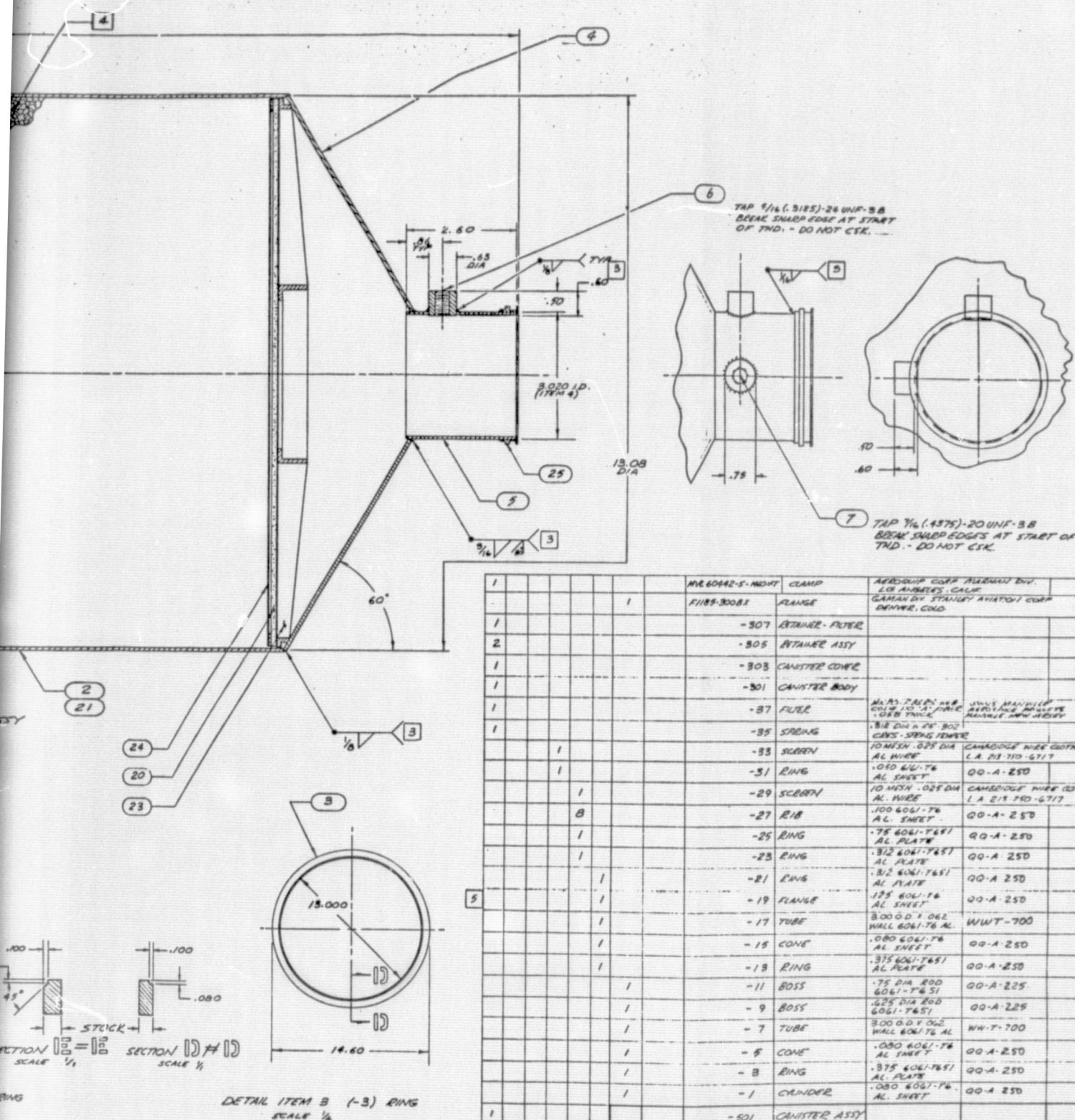
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FOLDOUT FRAME

- 5 FABRICATE TWO ITEM 11 (-19) FLANGES
- 4 FILL WITH APPROX. 40 POUNDS OF 4X6 MESH BARKLEY CHENEY
BD CHARCOAL IMPREGNATED WITH 2 MILLIMOLES/GRAM OF
PHOSPHORIC ACID
- 3 WELD PER LAC 3853-090300
- 2 MACHINE PER PROCESS SPEC LAC 3601
- 1 FINAL MACHINE AFTER WELDING

NOTES:

| REVISIONS | | | | |
|-----------|----|-------------|------|------|
| CODE | LT | DESCRIPTION | DATE | APVD |



TWO ITEM 11 (-19) FLANGES

APPROX. 40 POUNDS OF 4X6 MESH BARNESBY CHAIN
DIAL IMPREGNATED WITH 2 MILLIMETERS/GRAIN OF
AC ACID.
LAC 3853-000300
RE ARK655 SAFE LAC 3601
MACHINE AFTER WELDING

| | |
|-------------------|--------|
| INTERPRET DWG PER | |
| | |
| | |
| | |
| NEXT ASSY | USED C |
| APPLICATION | |

UNLESS OTHERWISE
SPECIFIED DIM ARE IN
INCHES. TOLERANCES ON:
FRACTIONS: $\pm 1/16$
DECIMALS: $.X = \pm .1$
 $.XX = \pm .03$
 $.XXX = \pm .010$
ANGLES: $\pm 2 \text{ DEG}$

| | |
|-------|---------------|
| DATE | 27 MARCH 1971 |
| DWN | 28 MARCH |
| APVD | |
| APVD | |
| ENGRG | |
| CHKR | (20) |
| APVD | |
| APVD | |

| | | | |
|---|------------|------------|--------------|
| LOCKHEED MISSILES & SPACE COMPANY, INC. A SUBSIDIARY OF LOCKHEED AIRCRAFT CORPORATION SUNNYVALE, CALIFORNIA | | | |
| CANISTER-FIXED BED | | | |
| TCCS | | | |
| SIZE | CODE IDENT | DRAWING NO | REV |
| E | | CC-117 | |
| SCALE | NOTED | | SHEET 1 OF 2 |

CANISTER-FIXED BED

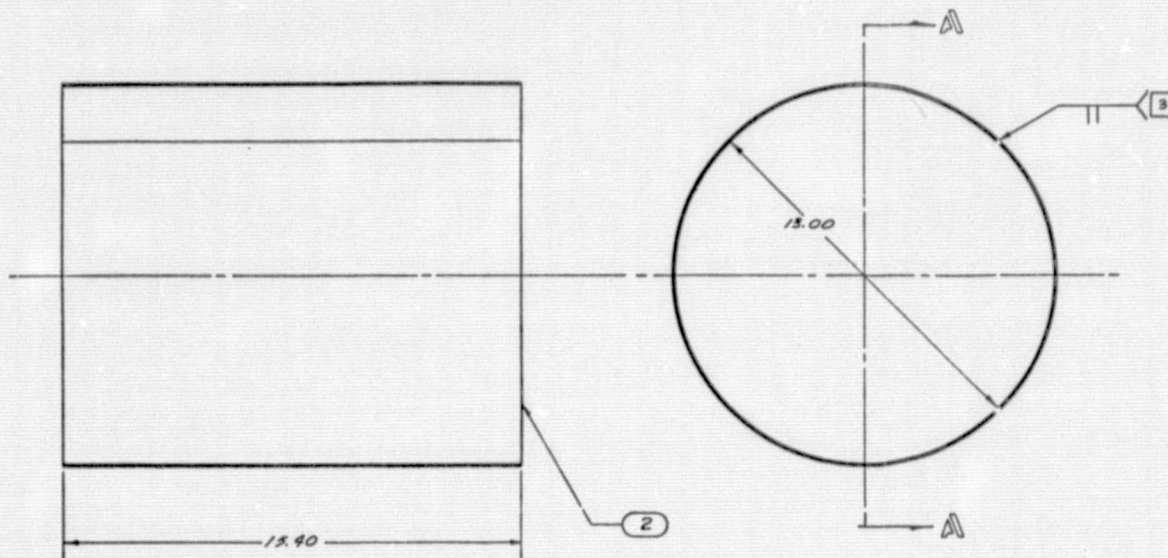
TCCS

| | | | |
|-----------|------------|----------------------|--------------|
| SIZE E | CODE IDENT | DRAWING NO CC-117 | REV |
| SCALE | NOTED | | SHEET 1 OF 2 |

| | | |
|-------|-------|--------------|
| SCALE | NOTED | SHEET 1 OF 2 |
|-------|-------|--------------|

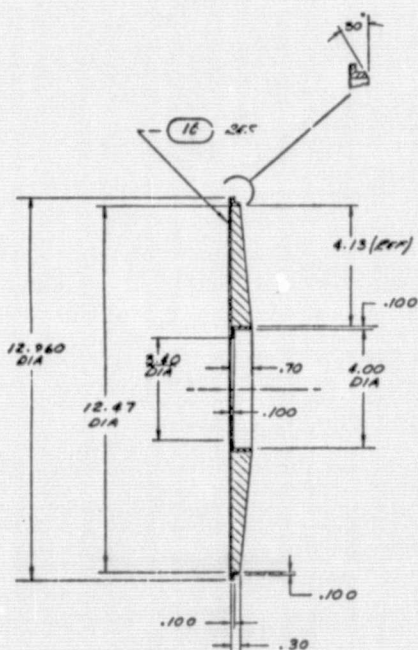
117B-92

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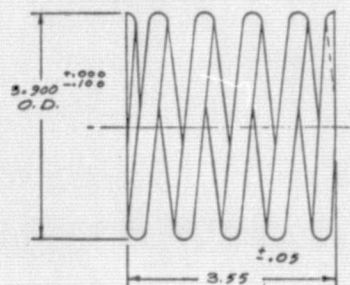
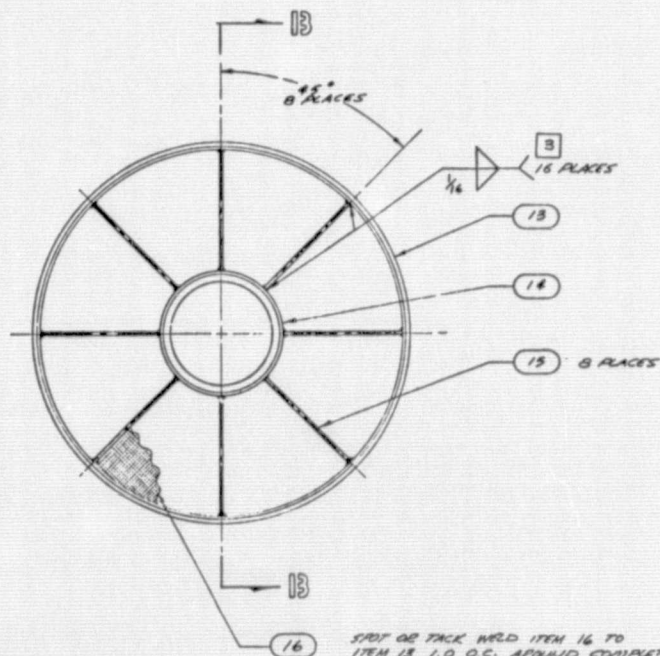
SECTION A-A

ITEM 2 (-1) DETAIL
SCALE 1/2



SECTION B-B

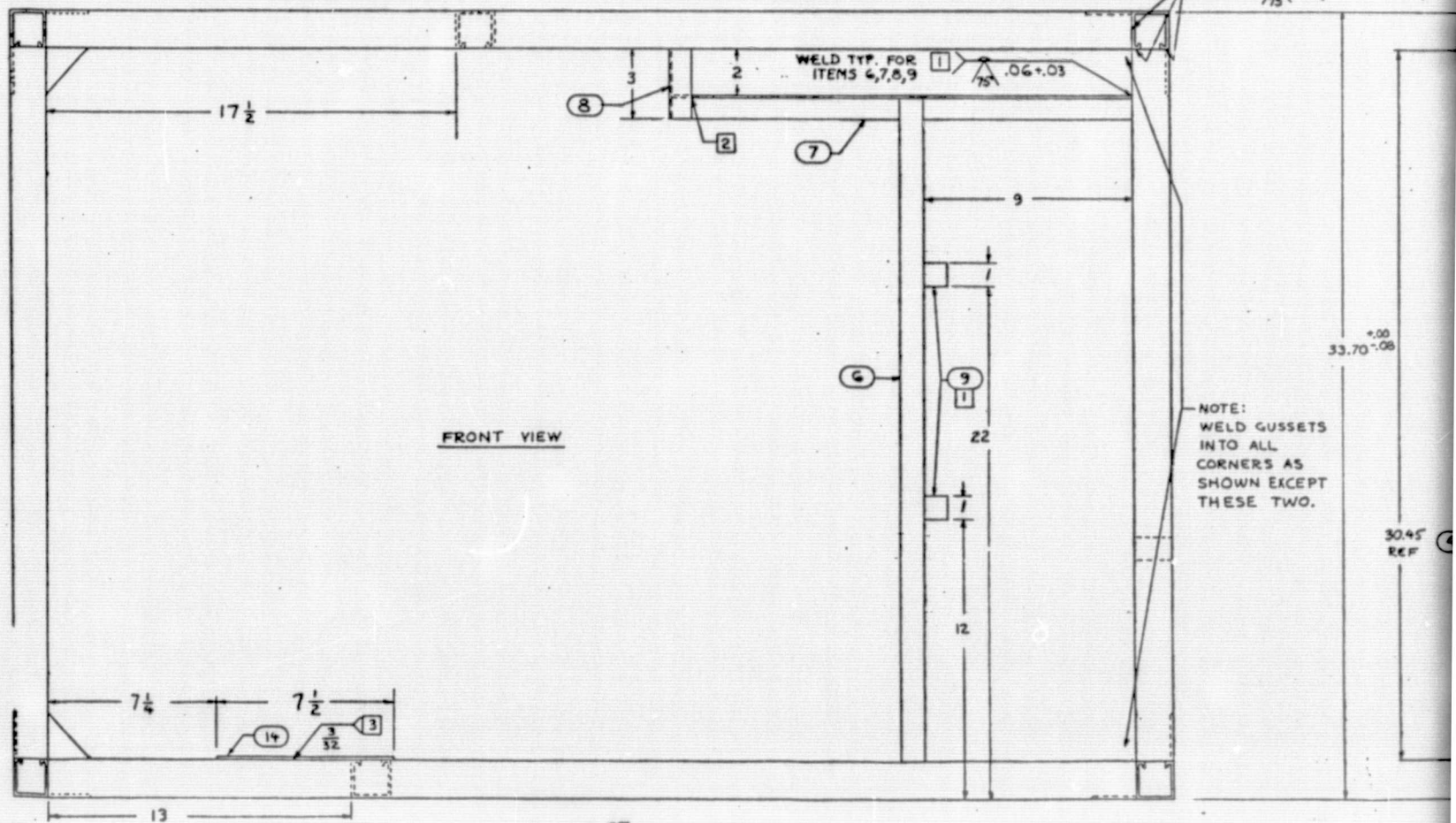
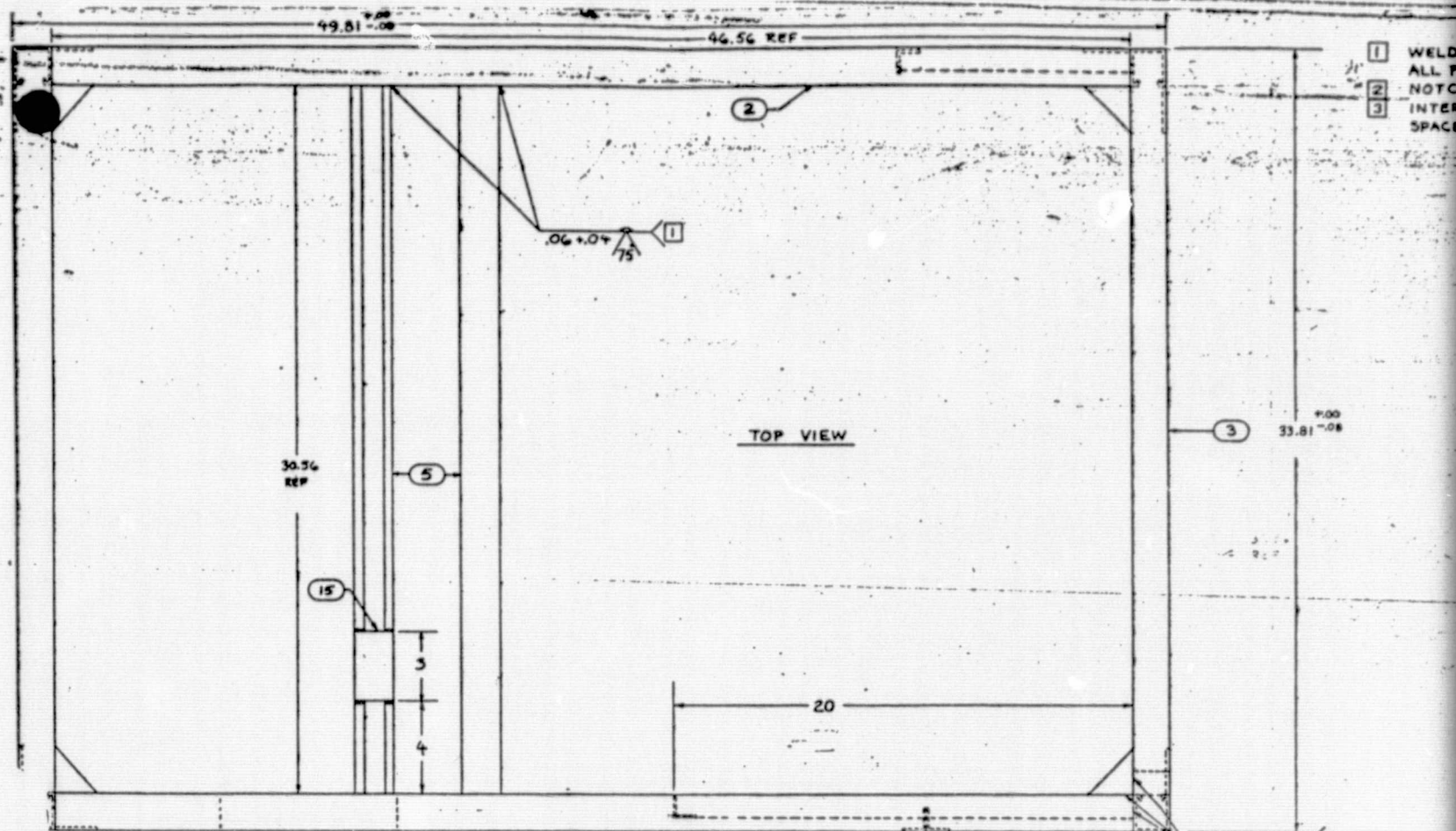
ITEM 23
DETAIL - 305 ASSY
SCALE 1/2



DETAIL ITEM 19 (-35) SPRING
SCALE 1/2

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B-27



FOLDOUT FRAME

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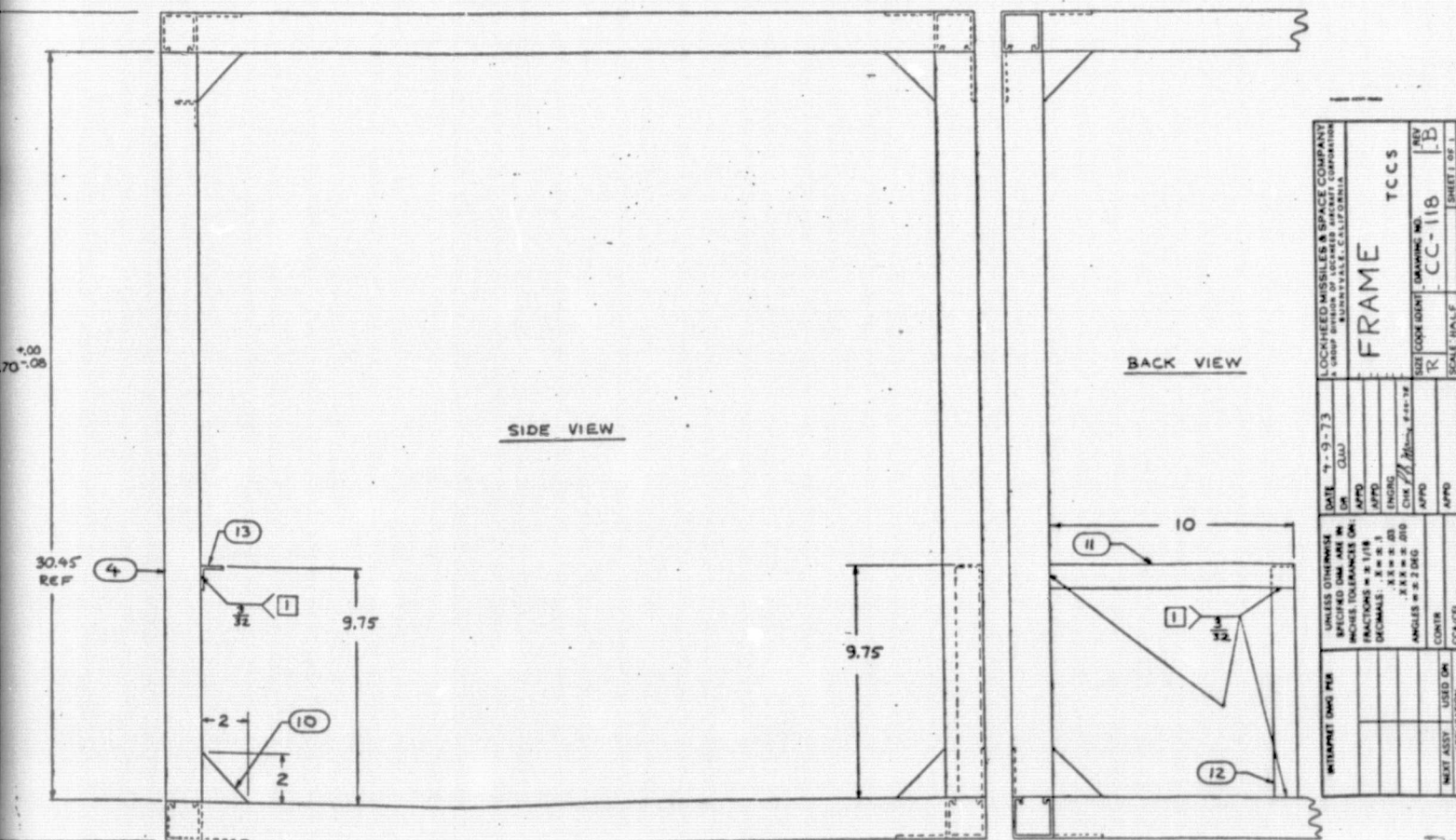
WELD PER LAC 3853-050300. WELD ALL POSSIBLE EDGES IN CONTACT. NOTCH AS REQD. TO FIT. INTERRUPTED WELD BEADS $\frac{1}{2}$ LONG, SPACED $2\frac{1}{2}$ INCHES, ALONG BOTH EDGES.

- WELD PER LAC 3853-050300. WELD ALL POSSIBLE EDGES IN CONTACT. NOTCH AS REQD. TO FIT. INTERRUPTED WELD BEADS $\frac{1}{2}$ LONG, SPACED $2\frac{1}{2}$ INCHES, ALONG BOTH EDGES.

| REVISIONS | | |
|-----------|--|----------------|
| LT# | DESCRIPTION | DATE APPROV |
| A | ADD BACK VIEW. ADD ITEMS 11-14. ADD NOTE 3. | 5/10/97 AW |
| B | ADD ITEM 15. | 5/14/97 |

| QTY REQD | COORD IDENT | PART OR IDENTIFYING NO. | NOMENCLATURE OR DESCRIPTION | MATERIAL DESCRIPTION OR NOTE | MATERIAL SPECIFICATION | ZONE | ITEM NO. |
|----------|-------------|-------------------------|-----------------------------|------------------------------|------------------------|------|----------|
| 1 | | CC-118-501 | FRAME | | | | 1 |
| 4 | | | UNISTRUT P 1000 EA | | 6063 T5 | | 2 |
| 4 | | | L | | L | | 3 |
| 4 | | | L | | L | | 4 |
| 2 | | | | | | | 5 |
| 1 | | | PACIFIC METALS | ANGLE 1 X 1 X .034 | 6061 T6 | | 6 |
| 1 | | | L | L | L | | 7 |
| 1 | | | L | L | L | | 8 |
| 2 | | | L | L | L | | 9 |
| 22 | | | GUSSET | AL SHEET .100 THICK | 6061 T6 | | 10 |
| 1 | | | ANGLE | 1 X 1 X .125 | 6061 T6 | | 11 |
| 1 | | | L | L | L | | 12 |
| 1 | | | L | L | L | | 13 |
| 1 | | | PLATE | .125 THICK | 6061 T6 | | 14 |
| 1 | | | L | L | L | | 15 |
| | | | | | | | |
| | | | | | | | |

TYP. ALL 8 CORNERS



4

3

| | |
|-----------------------------|-----------------------|
| LIMITED CALENDAR LIFE | LIMIT OPER LIFE |
|-----------------------------|-----------------------|

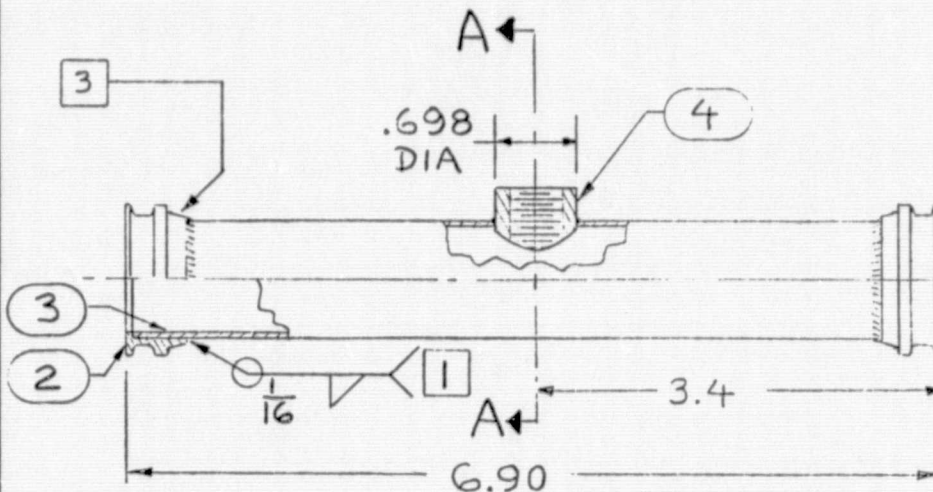
THREAD $\frac{7}{16}$ -20 UNF [4].
ONLY BREAK SHARP
EDGE AT START OF
THREAD. DO NOT
COUNTERSINK.

D

C

B

A



NOTES:

- [1] WELD PER LAC 3853-050200.
- [2] CLEAN PER LAC 0170 AFTER COM-
PLETION OF WELD INSPECTION AND
OTHER MFG. OPERATIONS.
- [3] CHAMFER ITEMS [2] 15° TO
FACILITATE WELDING
- [4] TOP SURFACE OF BOSS MUST BE
PERPENDICULAR TO AXIS OF THREAD
WITHIN $\frac{1}{4}^\circ$ AND MUST HAVE $\frac{32}{\sqrt{}}$

SECTION A-A

| 1 | | |
|-------------|---------------|----------------------------|
| 1 | | |
| 2 | | |
| CC-119-50 | | |
| QTY REQD | CODE IDENT | PART OR IDENTIFYING NO. |

| INTERPRET DWG PER | | UNLESS OTHERWISE SPECIFIED DIM. ARE IN INCHES. TOLERANCES ON FRACTIONS = $\pm 1/16$ DECIMALS: .X = $\pm .1$.XX = $\pm .03$.XXX = $\pm .010$ ANGLES = ± 2 DEG |
|-------------------|---------|---|
| | | |
| | | |
| | | |
| | | |
| NEXT ASSY | USED ON | CONTR |
| APPLICATION | | CCA/CEI |

FORM LMSC 1512C-7 PRINTED ON LMSC CODE: 5

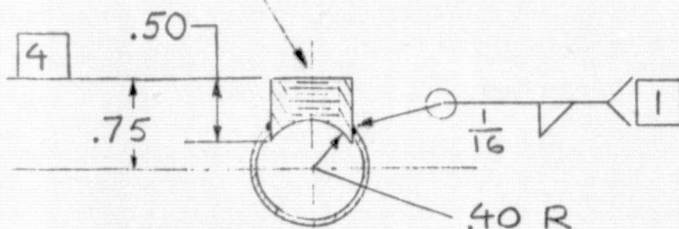
FOLDOUT FRAME /

20 UNF 4.
 K SHARP
 START OF
 DO NOT
 SINK.

LIMITED
 CALENDAR
 LIFE

LIMITED
 OPERATING
 LIFE

| REVISIONS | | DATE | APPD |
|-----------|-----|------|------|
| ZONE | LTR | | |
| | | | |
| | | | |



SECTION A-A

| 1 | | | BOSS | 3/4 DIA ROD 321/347 CRES | QQS-763 | | 4 |
|-------------|---------------|----------------------------|--------------------------------|-----------------------------------|---------------------------|-------------------|-------------|
| 1 | | | TUBING | 1 INCH O.D. X .049 WALL | 304 ELC OR 321 OR 347 | | 3 |
| 2 | | | FLANGE | 3 | GAMAH F20010 C | 15-5 P.H. CRES | 2 |
| | | CC-119-501 | DUCT | ITEMS 2,3,4 | | | 1 |
| QTY REQD | CODE IDENT | PART OR IDENTIFYING NO. | NOMENCLATURE OR DESCRIPTION | MATERIAL DESCRI- PTION OR NOTE | MATERIAL SPECIFICATION | ZONE | ITEM NO. |

PARTS LIST

| | | | | | | |
|--------------------------|--|-----------------------|---|------------|--------------------|-----|
| INTERPRET DWG PER | UNLESS OTHERWISE SPECIFIED DIM. ARE IN INCHES. TOLERANCES ON: FRACTIONS = $\pm 1/16$ DECIMALS: .X = $\pm .1$.XX = $\pm .03$.XXX = $\pm .010$ ANGLES = ± 2 DEG | DATE 4-10-73 | LOCKHEED MISSILES & SPACE COMPANY A GROUP DIVISION OF LOCKHEED AIRCRAFT CORPORATION SUNNYVALE, CALIFORNIA | | | |
| | | DR aw | DUCT, PRE-SORB TO CAT. OX. TCCS | | | |
| | | APPD | | | | |
| | | APPD | | | | |
| ASSY USED ON APPLICATION | CONTR CCA/CEI | CHK L.B. Main 4-12-75 | SIZE C | CODE IDENT | DRAWING NO. CC-119 | REV |
| | | APPD | SCALE: FULL | | SHEET 1 OF 1 | |
| | | | | | | |

B-29

FOLDOUT FRAME 2



- 1 CHAMFER ITEMS (2) 15° TO FACILITATE WELDING.
- 2 THREAD $\frac{7}{16}$ -20 UNF. ONLY BREAK SHARP EDGE AT START OF THREAD. DO NOT COUNTERSINK. TOP SURFACE OF BOSS MUST BE PERPENDICULAR TO AXIS OF THREAD WITHIN $\frac{1}{4}$ DEGREE.
- 3 WELD PER LAC 3853-0502C0.
- 4 CLEAN PER LAC 0170 AFTER COMPLETION OF WELD INSPECTION AND ALL MFG.
- 5 BEFORE WELDING ITEM 5 IN PLACE, DRILL THRU $\frac{5}{16}$ DIA.

LIMITED
CALENDAR
LIFE

LIMITED
OPERATING
LIFE

| REVISIONS | | | | |
|-----------|-----|---------------------------|---------|------|
| ZONE | LTR | DESCRIPTION | DATE | APPD |
| CC | A | 1.50 RADII WERE 1.75 REF. | 5/17/73 | aw |
| 7D | | DELETE .77, ADD 2.02 | | |
| GD | B | ADD ITEM 5. ADD .55 & 2 | 6/21/73 | aw |
| 8A | | DIMS. ADD NOTE 5 | | |

| | | | | | | | |
|-------------|---------------|----------------------------|--------------------------------|-----------------------------------|---------------------------|------|-------------|
| 1 | | | SWAGelok 601-A-4-316 | SEE NOTE 5 | TYPE 316 CRES | 5 | |
| 1 | | | BOSS | 3/4 DIA ROD 321 OR 347 | QQS-763 | 4 | |
| 1 | | | TUBING | MAKE FROM UMSC SK-TC-004 | 304 ELC OR 321 OR 347 | 3 | |
| 2 | | | FLANGE 1 | GAMAH F20010 C | 15-5 PH CRES | 2 | |
| | | CC-120-501 | DUCT | ITEMS 2,3,4 | | 1 | |
| QTY REQD | CODE IDENT | PART OR IDENTIFYING NO. | NOMENCLATURE OR DESCRIPTION | MATERIAL DESCRI- PTION OR NOTE | MATERIAL SPECIFICATION | ZONE | ITEM NO. |

| | | | | | | |
|-------------------|--|--|--------------|--------------|---|--|
| INTERPRET DWG PER | | UNLESS OTHERWISE SPECIFIED DIM. ARE IN INCHES. TOLERANCES ON: FRACTIONS = $\pm 1/16$ DECIMALS: .X = $\pm .1$.XX = $\pm .03$.XXX = $\pm .010$ ANGLES = ± 2 DEG | DATE 4-11-73 | | LOCKHEED MISSILES & SPACE COMPANY A GROUP DIVISION OF LOCKHEED AIRCRAFT CORPORATION SUNNYVALE, CALIFORNIA | |
| | | | DR aw | | DUCT, CAT. OX. TO POST-SORB TCCS | |
| | | | APPD | | | |
| | | | APPD | | | |
| | | | ENGRG | | SIZE CODE IDENT | |
| | | CHK RB-Maria 4-12-73 | | DRAWING NO. | | |
| | | APPD | | CC-120 | | |
| | | APPD | | SCALE: FULL | | |
| NEXT ASSY USED ON | | CONTR | | SHEET 1 OF 1 | | |
| APPLICATION | | CCA/CEI | | | | |

B-30

FOLDOUT FRAME

4

3

2

| | |
|-----------------------------|------------------------------|
| LIMITED CALENDAR LIFE | LIMITED OPERATING LIFE |
|-----------------------------|------------------------------|

2 INCH
NATIONAL
PIPE THRD.

HEX FLATS

2.50
TYP

2.070 ID

2.375
DIA

40°

$\frac{3}{32} + \frac{1}{16}$

2

3

.09

.34

.59

.97

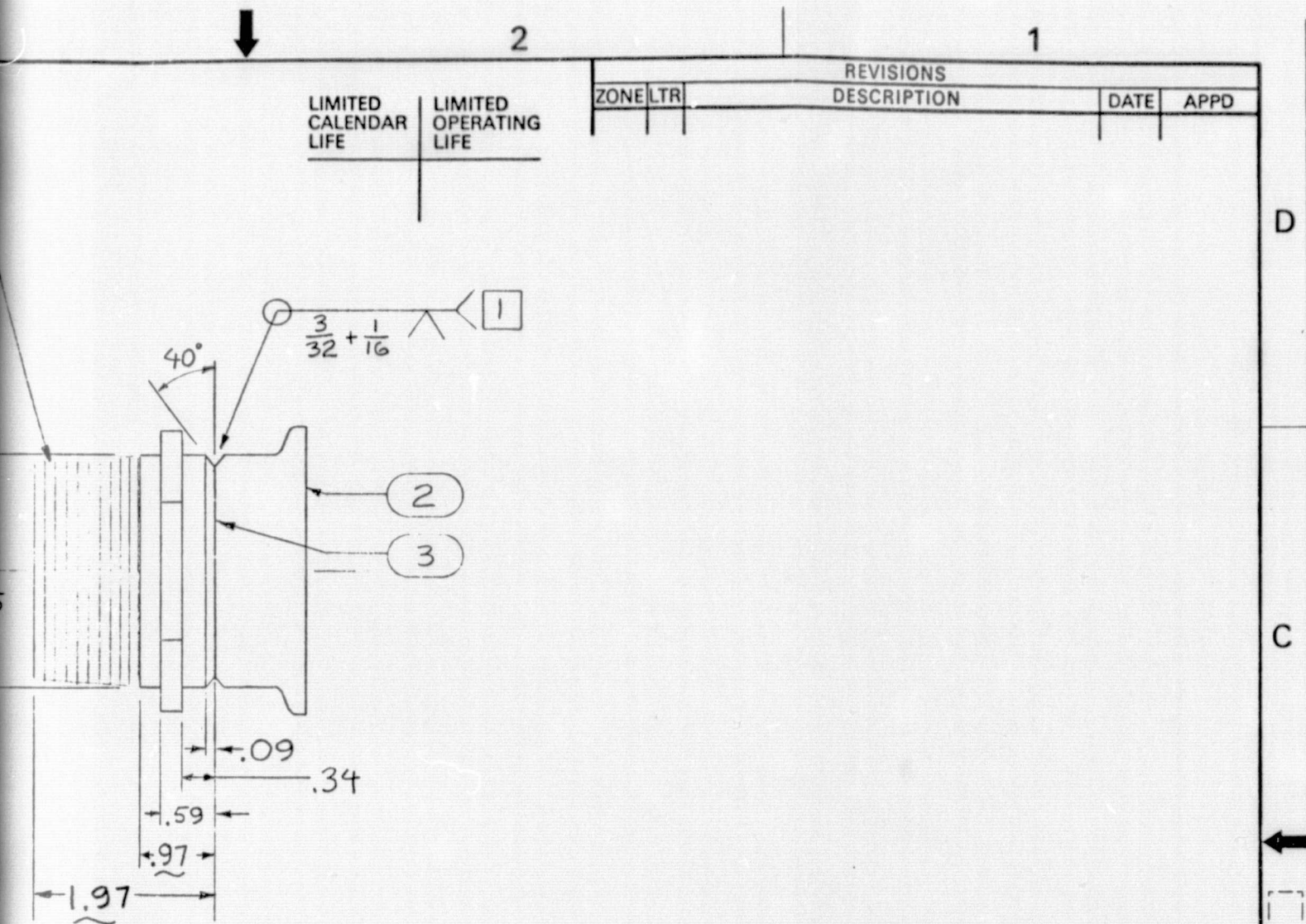
1.97

NOTES

1. WELD PER LAC 3853-050200
2. CLEAN PER LAC 0170 AFTER COMPLETION OF WELD INSPECTION & MFG. OPERATIONS.

| | | | |
|-------------|---------------|----------------------------|-----------|
| 4 | | | THR |
| 4 | | MFM 5700-A-200 | FLA FL |
| 4 | | CC-121-501 | THR |
| QTY REQD | CODE IDENT | PART OR IDENTIFYING NO. | NOM D |

| | | | |
|-------------------|---------|--|------|
| INTERPRET DWG PER | | UNLESS OTHERWISE SPECIFIED DIM. ARE IN INCHES. TOLERANCES ON: FRACTIONS = $\pm 1/16$ DECIMALS: .X = $\pm .1$.XX = $\pm .03$.XXX = $\pm .010$ ANGLES = ± 2 DEG | DATE |
| | | | DR |
| | | | APPD |
| | | | APPD |
| | | | ENGR |
| | | | CHK |
| | | | APPD |
| NEXT ASSY | USED ON | CONTR | APPD |
| APPLICATION | | CCA/CEI | APPD |



| QTY REQD | CODE IDENT | PART OR IDENTIFYING NO. | NOMENCLATURE OR DESCRIPTION | MATERIAL DESCRIPTION OR NOTE | MATERIAL SPECIFICATION | ZONE | ITEM NO. |
|----------|------------|-------------------------|-----------------------------|------------------------------|------------------------|------|----------|
| 4 | | | THREADED HEX | 3 DIA. BAR | 6061 TG | | 3 |
| 4 | | MFM 5700-A-200 | FLAT PIPE FLANGE | AEROQUIP - MARMAN | 6061 TG | | 2 |
| 4 | | CC-121-501 | THR'D. FLANGE | ITEMS 2,3 | | | 1 |

| | | | | | | | |
|---|--|-------------------------|--|---|------------|--------------------|-----|
| INTERPRET DWG PER UNLESS OTHERWISE SPECIFIED DIM. ARE IN INCHES. TOLERANCES ON: FRACTIONS = $\pm 1/16$ DECIMALS: .X = $\pm .1$.XX = $\pm .03$.XXX = $\pm .010$ ANGLES = ± 2 DEG | | DATE 4-12-73 | | LOCKHEED MISSILES & SPACE COMPANY A GROUP DIVISION OF LOCKHEED AIRCRAFT CORPORATION SUNNYVALE, CALIFORNIA | | | |
| | | DR aw | | | | | |
| CONTR CCA/CEI | | APPD | | THREADED FLANGE TCCS | | | |
| | | APPD | | | | | |
| | | ENGRG | | | | | |
| | | CHK L.B. Nlanie 9-16-73 | | | | | |
| ASSY USED ON APPLICATION | | APPD | | SIZE C | CODE IDENT | DRAWING NO. CC-121 | REV |
| | | | | SCALE: FULL | | SHEET 1 OF 1 | |

4

3

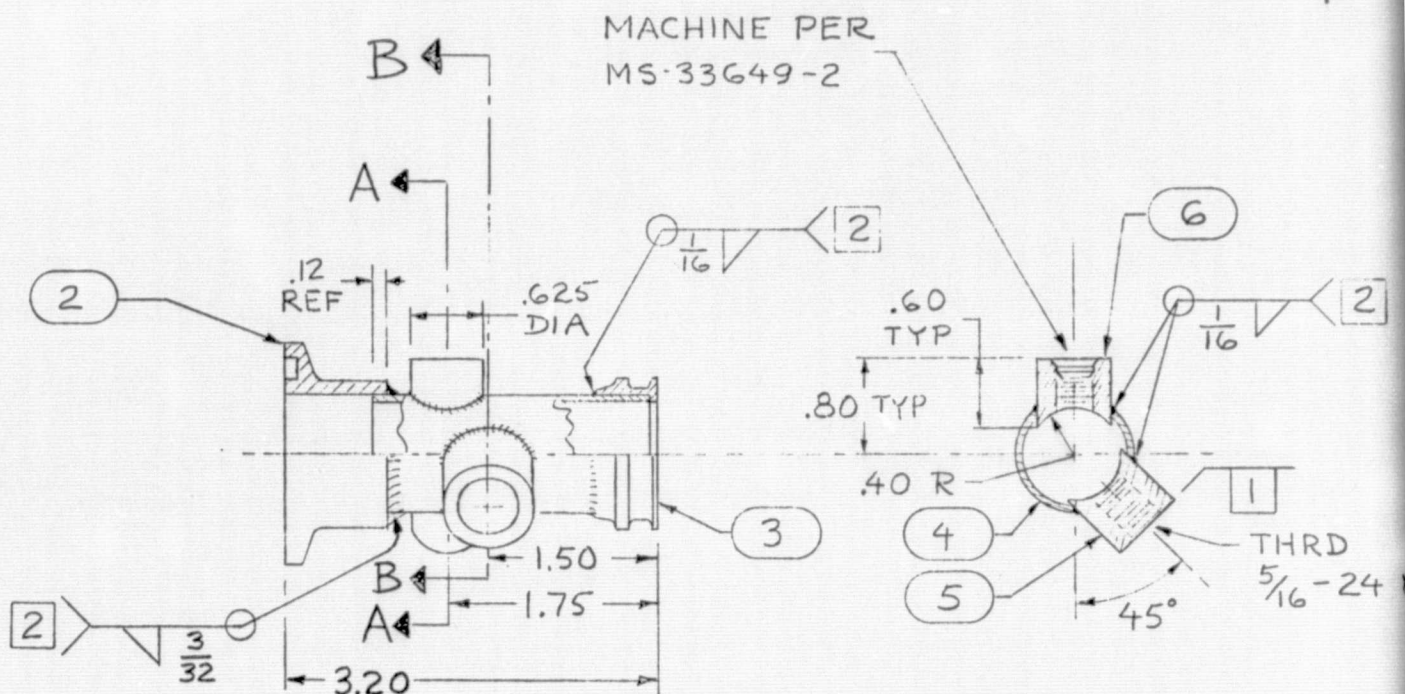
| | |
|-----------------------------|-----------------------|
| LIMITED CALENDAR LIFE | LIMIT OPER LIFE |
|-----------------------------|-----------------------|

D

C

B

A



SECTION A-A

NOTES

- 1 TOP SURFACE OF BOSS MUST BE PERPEN-
DICULAR TO AXIS OF THREAD WITHIN $\frac{1}{4}^\circ$
& MUST HAVE $\frac{32}{\sqrt{}}$ FINISH.
- 2 WELD PER LAC 3853-050200.
3. CLEAN PER LAC 0170 AFTER COMPLETION
OF WELD INSPECTION & MFG. OPERATIONS.
- 4 ONLY BREAK SHARP EDGES AT START
OF THREAD. DO NOT COUNTERSINK.

| 1 | | |
|-------------|---------------|----------------------------|
| 1 | | |
| 1 | | |
| 1 | | |
| 1 | | F1185-100 BX |
| 1 | | MFM 5703-A-100 |
| 1 | | CC-122-501 |
| QTY REQD | CODE IDENT | PART OR IDENTIFYING NO. |

INTERPRET DWG PER

| NEXT ASSY | USED ON |
|-------------|---------|
| APPLICATION | |

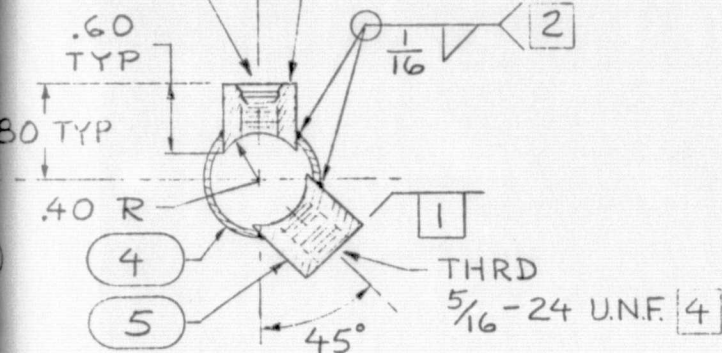
UNLESS OTHERWISE
SPECIFIED DIM. ARE IN
INCHES. TOLERANCES ON:
FRACTIONS = $\pm 1/16$
DECIMALS: .X = $\pm .1$
.XX = $\pm .03$
.XXX = $\pm .010$
ANGLES = ± 2 DEG

CONTR

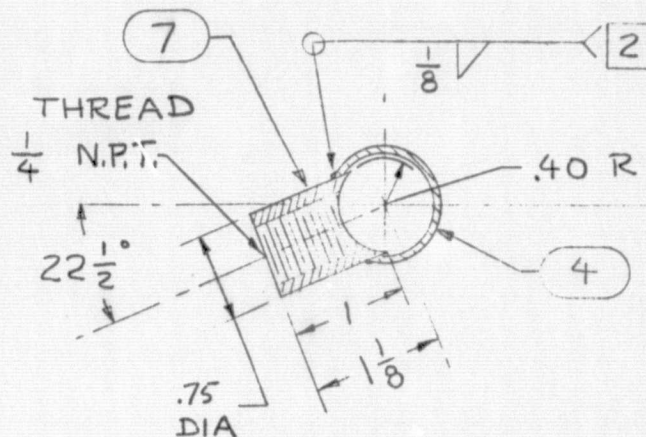
CCA/CEI

ER
2

[2]



SECTION A-A



SECTION B-B

| 1 | | | 1/4 N.P.T. BOSS | .75 DIA ROD | 6061 T651 | | 7 |
|----------|------------|-------------------------|-----------------------------|------------------------------|------------------------|------|----------|
| 1 | | | MS BOSS | .625 DIA ROD | 6061 T651 | | 6 |
| 1 | | | 5/16-24 UNF BOSS [1] | .625 DIA ROD | 6061 T651 | | 5 |
| 1 | | | TUBE 2.35 LONG | 1 O.D. x .049 WALL | 6061 WWT 700/G | | 4 |
| 1 | | F1185-100 BX | FLANGE | GAMAH | 6061 T6 | | 3 |
| 1 | | MFM 5703-A-100 | GROOVED TUBE FLANGE | AEROQUIP-MARMAN | 6061 T6 | | 2 |
| 1 | | CC-122-501 | DUCT | ITEMS 2,3,4,5,6 | | | 1 |
| QTY REQD | CODE IDENT | PART OR IDENTIFYING NO. | NOMENCLATURE OR DESCRIPTION | MATERIAL DESCRIPTION OR NOTE | MATERIAL SPECIFICATION | ZONE | ITEM NO. |

PARTS LIST

INTERPRET DWG PER

UNLESS OTHERWISE SPECIFIED DIM. ARE IN INCHES. TOLERANCES ON:
FRACTIONS = $\pm 1/16$
DECIMALS: .X = $\pm .1$
.XX = $\pm .03$
.XXX = $\pm .010$
ANGLES = ± 2 DEG

DATE 4-12-73

DR aw

APPD

APPD

ENGRG

CHK R.B. Marie 4-16-73

APPD

APPD

LOCKHEED MISSILES & SPACE COMPANY
A GROUP DIVISION OF LOCKHEED AIRCRAFT CORPORATION
SUNNYVALE, CALIFORNIA

DUCT, BLOWER-TO-VALVE

SIZE CODE IDENT DRAWING NO.

C

CC-122

REV

A

SCALE: FULL

SHEET 1 OF 1

ASSY USED ON APPLICATION

CONTR

CCA/CEI

FOLDOUT FRAME B-32

8

7

6

5

4

H

G

F

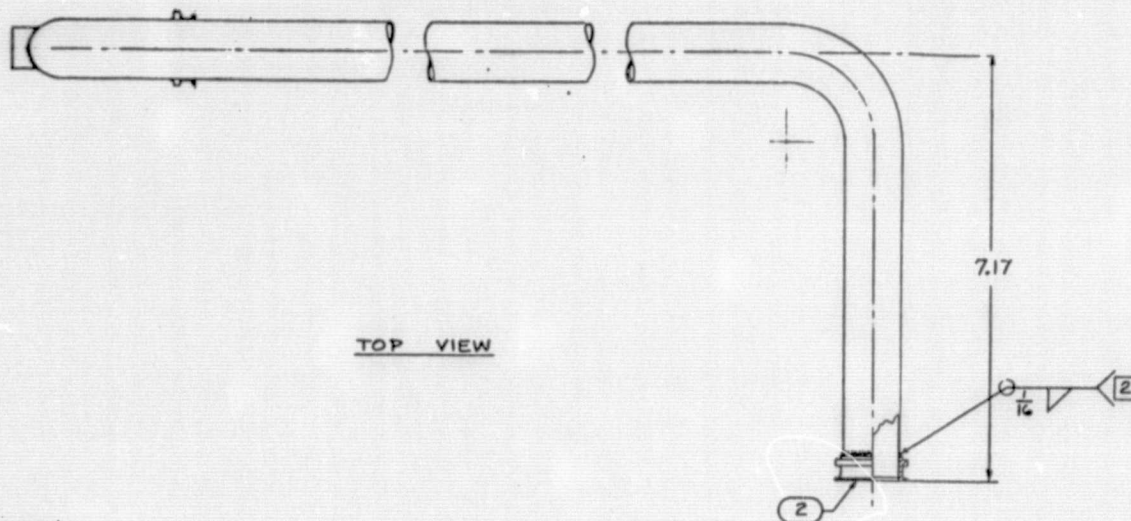
E

D

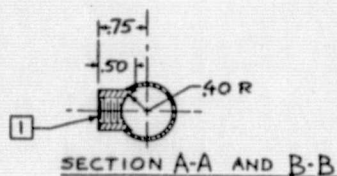
C

B

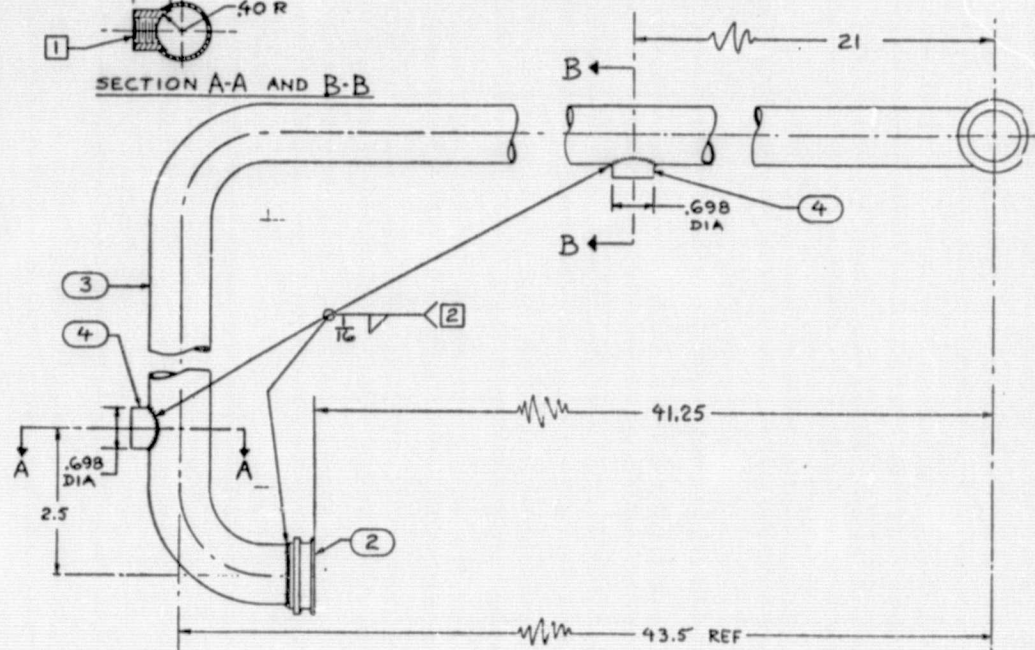
A



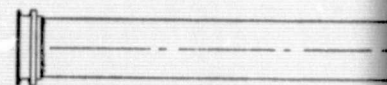
TOP VIEW



SECTION A-A AND B-B



FRONT VIEW



SIDE VIEW

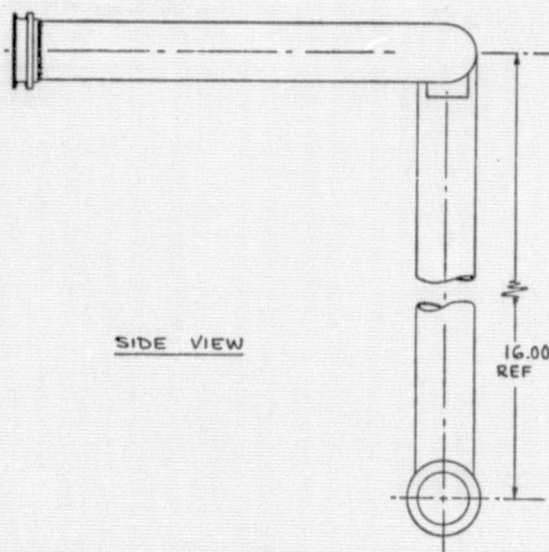
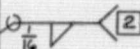
NOTES

- 1 THREAD $\frac{1}{16}$ -20 UNF. ONLY BREAK SHARP EDGE AT START OF THREAD. DO NOT COUNTERSINK. TOP SURFACE OF BOSS MUST BE \perp TO AXIS OF THRD. WITHIN $\frac{1}{4}^\circ$ AND MUST HAVE $\frac{3}{32}$.
- 2 WELD PER LAC 3853-050300.
3. CLEAN PER LAC 0170 AFTER ALL OTHER OPERATIONS ARE COMPLETED.

ORIGINAL PAGE IS
OF POOR QUALITY

| REVISIONS | | | | |
|-----------|-----|------------------------------------|---------|------|
| ZONE | LTR | DESCRIPTION | DATE | APVD |
| GE | A | ADD 1 ADD'L ITEM + AT SECTION B-B. | 6-27-73 | Qu |

7.17



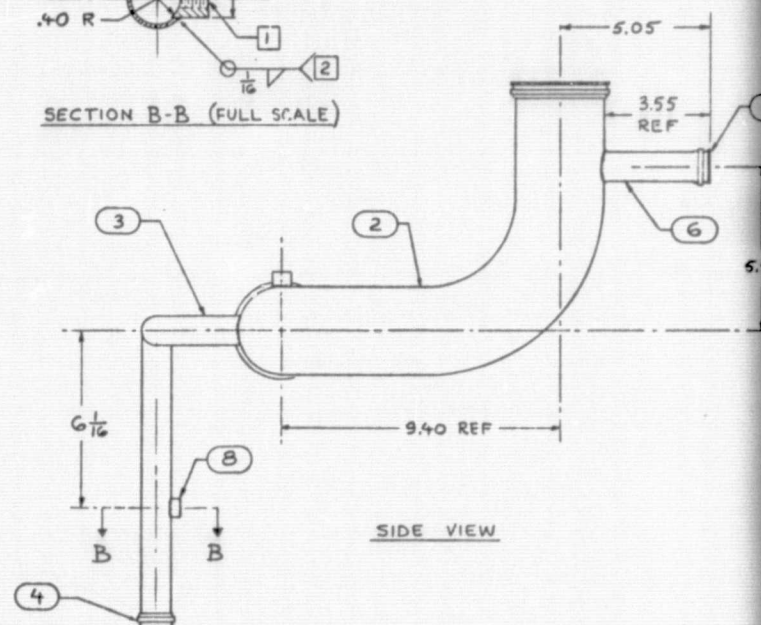
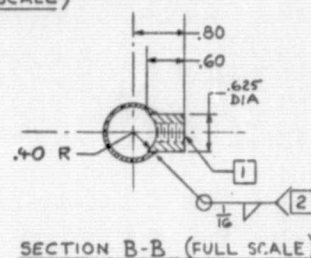
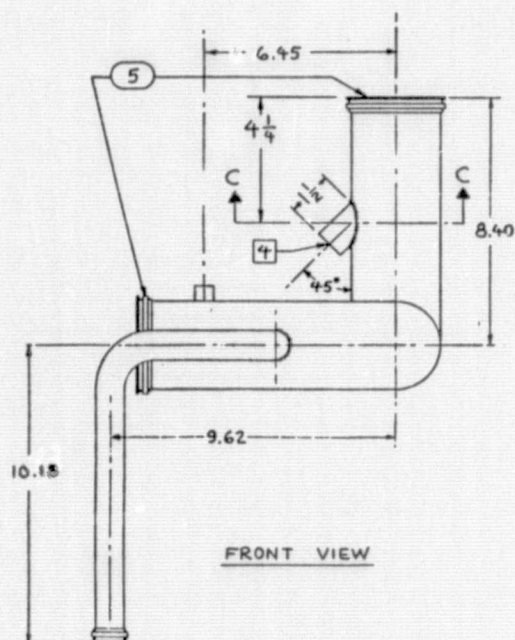
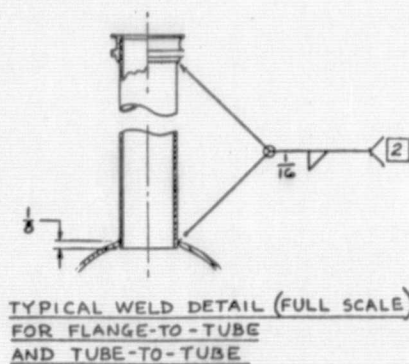
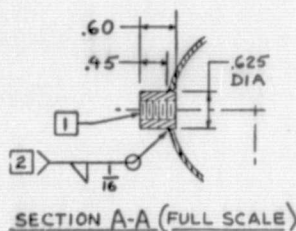
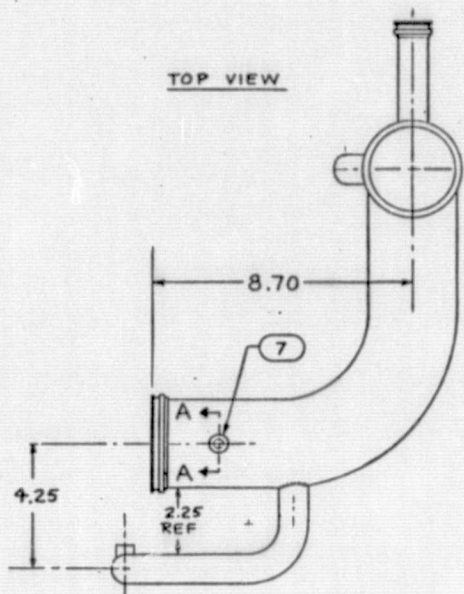
SIDE VIEW

| 2 | | | BOSS | 3/4 DIA ROD | 6061 T6 | | 4 |
|----------|------------|------------------------|-----------------------------|------------------------------|------------------------|------|---------|
| 1 | | | BENT TUBE | LMSC | SK-TC-003 | | 3 |
| 2 | | | GAMAH RANGE FIIBS-100 BX | 6061 T6 | | | 2 |
| 1 | | CC-123-501 | DUCT | ITEMS 2,3,4 | | | 1 |
| QTY REQD | CODE IDENT | PART OR IDENTIFYING NO | NOMENCLATURE OR DESCRIPTION | MATERIAL DESCRIPTION OR NOTE | MATERIAL SPECIFICATION | ZONE | ITEM NO |

PARTS LIST

| | | | | | | | |
|-------------------------------|--|---|--|--------------------|--|---|--|
| INTERPRET DWG PER | | UNLESS OTHERWISE SPECIFIED DIM ARE IN INCHES TOLERANCES ON: | | DATE 4-13-73 | | LOCKHEED MISSILES & SPACE COMPANY, INC. | |
| | | FRACTIONS = ± 1/16 | | DWN (JAW) | | A SUBSIDIARY OF LOCKHEED AIRCRAFT CORPORATION | |
| | | DECIMALS: .X = ± .1 | | APVD | | BUNNYVALE, CALIFORNIA | |
| | | .XX = ± .03 | | APVD | | DUCT, POST-SORB EXIT | |
| | | .XXX = ± .010 | | ENGRG | | TCCS | |
| | | ANGLES = ± 2 DEG | | CHGR (JAW) 4-13-73 | | SIZE CODE IDENT DRAWING NO | |
| NEXT ASSY USED ON APPLICATION | | CONTR | | APVD | | E CC-123 REV A | |
| | | CCA/CJ/PD | | | | SCALE FULL SHEET 1 OF 1 | |

FOLDOUT FRAME B-33

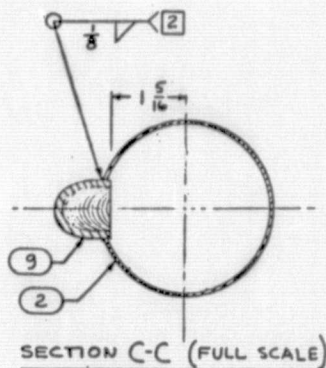


NOTES

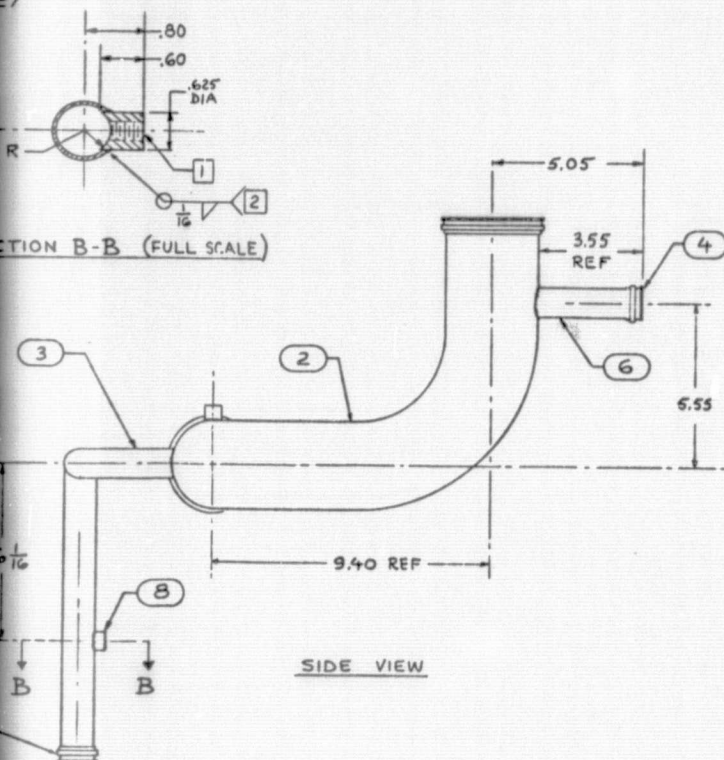
- 1 THREAD $\frac{3}{16}$ -24 UNF, ONLY BREAK SHARP EDGES AT START OF THREAD. DO NOT COUNTERSINK. TOP SURFACE OF BOSS MUST BE PERPENDICULAR TO AXIS OF THREAD WITHIN $\frac{1}{4}^\circ$ AND MUST HAVE $\frac{32}{}$ FINISH.
- 2 WELD PER LAC 3853-050300.
- 3 CLEAN PER LAC 0170 AFTER COMPLETION OF ALL MFG. OPERATIONS & WELD INSPECTION.
- 4 THREAD $\frac{3}{16}$ -16 UNF, ONLY BREAK SHARP EDGES AT START OF THREAD. DO NOT COUNTERSINK. TOP SURFACE OF BOSS MUST BE \perp TO AXIS OF THRD WITHIN $\frac{1}{4}^\circ$ & MUST HAVE $\frac{32}{}$ FINISH.

FOLDOUT FRAME)

| REVISIONS | | | | |
|-----------|-----|-------------------------------------|---------|------|
| ZONE | LTR | DESCRIPTION | DATE | APYD |
| D 7 | A | DELETE 5.12, ADD 9.62 | 6-20-73 | Am |
| F 7 | | DELETE 4.50 REP. | | |
| | B | ADD ITEM 9, SECT. C-C, 6 NOTE 4. | 7-27-73 | Am |



TYPICAL WELD DETAIL (FULL SCALE)
FOR FLANGE-TO-TUBE
AND TUBE-TO-TUBE

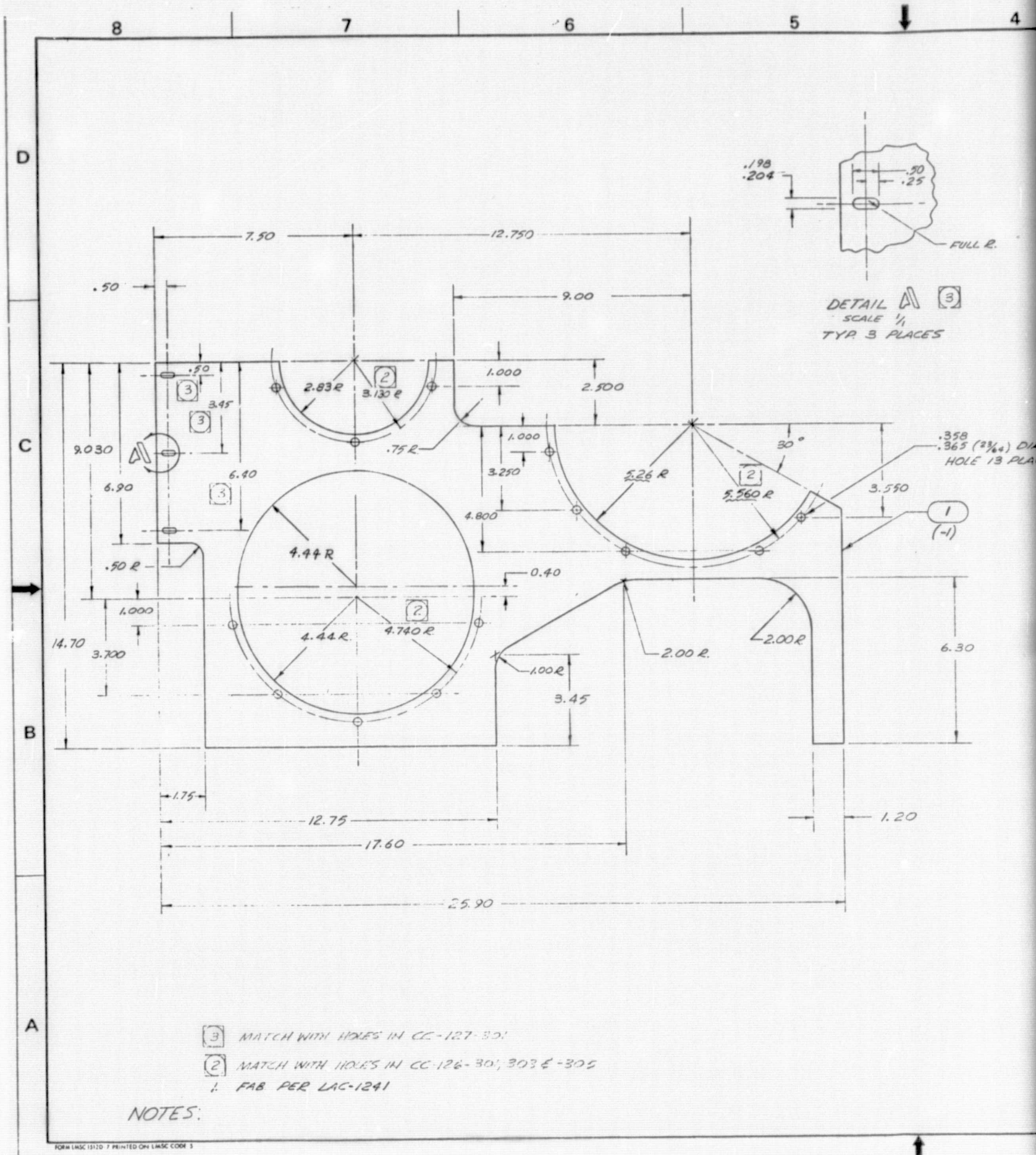


FOLDOUT FRAME

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OF POOR QUALITY

| | | | | | | | |
|-------------|---------------|---------------------------|--------------------------------|---------------------------------|---------------------------|------|---------|
| 1 | | | BOSS | 1 DIA ROD | 6061 T6F1 | | 9 |
| 1 | | | BOSS | .625 DIA ROD | 6061 T6F1 | | 8 |
| 1 | | | BOSS | .625 DIA ROD | 6061 T6F1 | | 7 |
| 1 | | | TUBE 1" | 1 INCH O.D. .043 WALL | 6061 WWT 700/6 | | 6 |
| 2 | | | GAMAH FLANGE 3" | F1185-300 BX | 6061 T6 | | 5 |
| 2 | | | GAMAH FLANGE 1" | F1185-100 BX | 6061 T6 | | 4 |
| 1 | | | BENT TUBE | SK-TC-001 | 5052-O | | 3 |
| 1 | | | BENT TUBE | SK-TC-002 | 5052-O | | 2 |
| 1 | | CC-124-501 | DUCT | ITEMS 2 thru 8 | | | 1 |
| QTY REQD | CODE IDENT | PART OR IDENTIFYING NO | NOMENCLATURE OR DESCRIPTION | MATERIAL DESCRIPTION OR NOTE | MATERIAL SPECIFICATION | ZONE | ITEM NO |

| | | | | | | | |
|-------------------|--|--|--|------------------------|--|--|--|
| INTERPRET DWG PER | | UNLESS OTHERWISE SPECIFIED DIM ARE IN INCHES, TOLERANCES ON: | | DATE 1-17-73 | | LOCKHEED MISSILES & SPACE COMPANY, INC. A SUBSIDIARY OF LOCKHEED AIRCRAFT CORPORATION BUNNVALE, CALIFORNIA | |
| | | FRACTIONS: $\pm 1/16$ | | APVD | | DUCT, DELIVERY | |
| | | DECIMALS: $\pm .1$ | | APVD | | | |
| | | $\pm .003$ | | ENGRG | | | |
| | | $\pm .010$ | | CHKR <i>RD 2/16/73</i> | | TCCS | |
| | | ANGLES ± 2 DEG | | APVD | | SIZE CODE IDENT | |
| NEXT ASSY USED ON | | CONTR | | APVD | | DRAWING NO | |
| APPLICATION | | CCA/CIED | | APVD | | CC-124 | |
| | | | | | | SCALE HALF | |
| | | | | | | SHEET 1 OF 1 | |



FOLDOUT FRAME)

ORIGINAL PAGE IS
OF POOR QUALITY

4

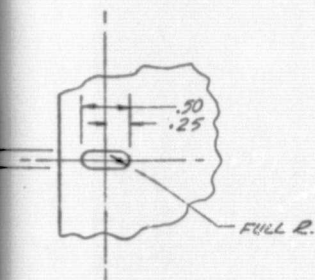
3

2

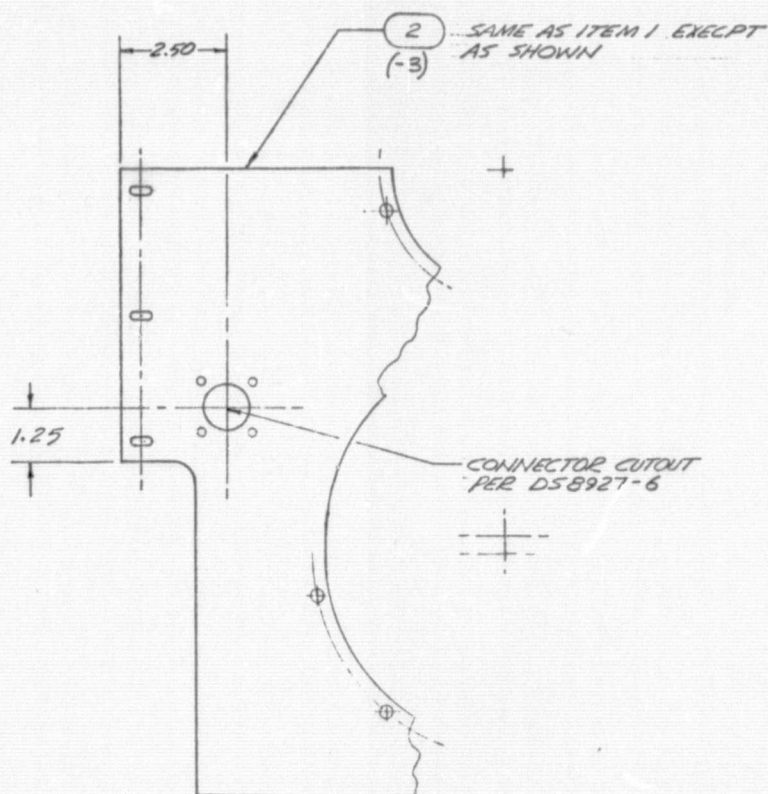
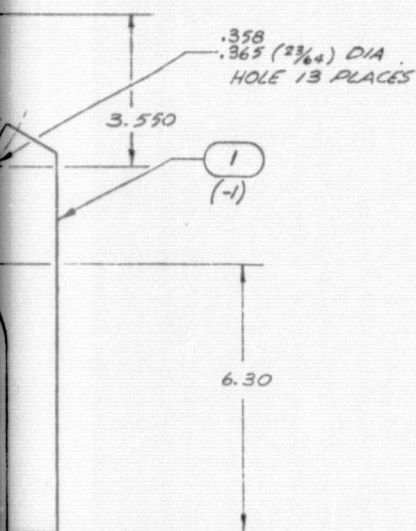
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LIMITED
CALENDAR
LIFELIMITED
OPERATING
LIFE

| REVISIONS | | | |
|-----------|----|-------------------------|---------|
| ZONE | TR | DESCRIPTION | DATE |
| GC | A | ADD 0.40 DIM. RAISE | 5/17/73 |
| 7C | | UPPER 4.44 R SEMICIRCLE | Am |



DETAIL A [3]
SCALE 1/1
TYP 3 PLACES



| 1 | | -3 | WEB | .125 6060-T6 AL SHEET | QQ-A-250/11 | | 2 |
|----------|------------|-------------------------|-----------------------------|------------------------------|------------------------|------|----------|
| 1 | | -1 | WEB | .125 6061-T6 AL SHEET | QQ-A-250/11 | | 1 |
| QTY REQD | CODE IDENT | PART OR IDENTIFYING NO. | NOMENCLATURE OR DESCRIPTION | MATERIAL DESCRIPTION OR NOTE | MATERIAL SPECIFICATION | ZONE | ITEM NO. |

PARTS LIST

| | | | | | | | |
|-------------------|---------|---|--|--------------------|---|------------|-------------|
| INTERPRET DWG PER | | UNLESS OTHERWISE SPECIFIED DIM. ARE IN INCHES. TOLERANCES ON: | | DATE 17 APRIL 1973 | LOCKHEED MISSILES & SPACE COMPANY | | |
| | | FRACTIONS = $\pm 1/16$ | | DR R.B. MAHNE | A GROUP DIVISION OF LOCKHEED AIRCRAFT CORPORATION | | |
| | | DECIMALS: .X = $\pm .1$ | | APPD | SUNNYVALE, CALIFORNIA | | |
| | | .XX = $\pm .03$ | | APPD | WEB - EPACKET, TCCS COMPONENT MOUNTING | | |
| | | .XXX = $\pm .010$ | | ENGRG | | | |
| | | ANGLES = ± 2 DEG | | CHK [Signature] | | | |
| CC-128 | TCCS | | | APPD | SIZE | CODE IDENT | DRAWING NO. |
| NEXT ASSY | USED ON | | | APPD | D | | CC-125 |
| APPLICATION | | CONTR | | | | REV | A |
| | | CCA/CEI | | | | SCALE | 1/2" = 1" |
| | | | | | | SHEET | OF 1 |

B-35
FOLDOUT FRAME 2

8

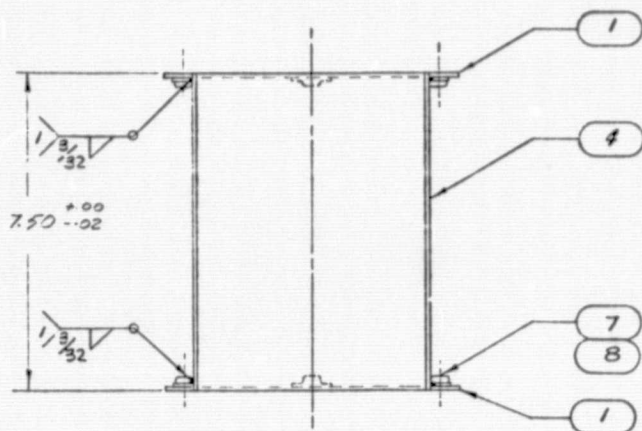
7

6

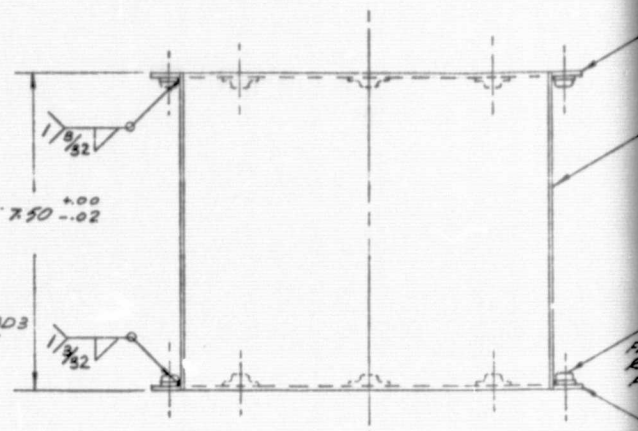
5



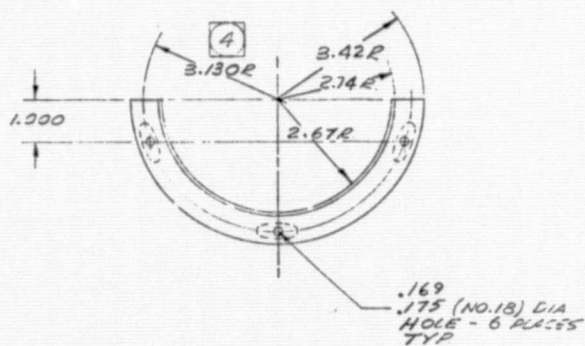
D



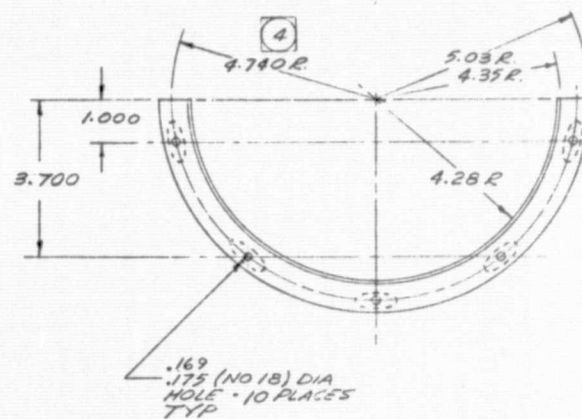
FASTEN WITH MS20426AD3
RIVETS - MFG HEAD ON
FLANGE FACE



C



-301 CRADLE ASSY



-303 CRADLE ASSY

B

A

4. MATCH WITH HOLES IN CC-125-1 & CC-125-3
3. INSTALL MECHANICAL FASTENERS PER LAC0581
2. FAB PER LAC-1241
1. WELD PER LAC-3852-050300

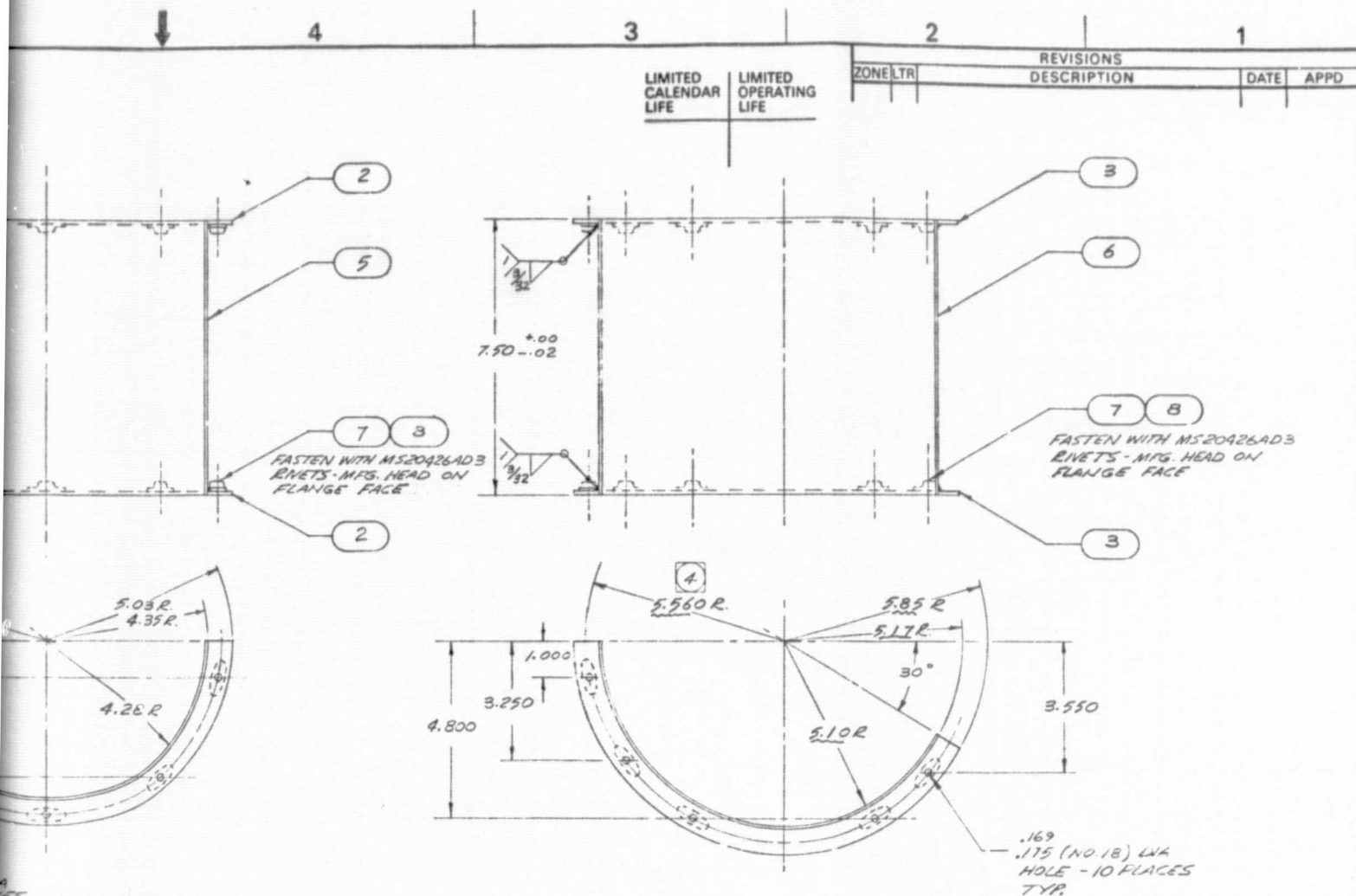
NOTES:

FORM LMS-1137 PRINTED ON LMS-1137

FOLDOUT FRAME /

ORIGINAL PAGE IS
OF QUALITY





-305 CRADLE ASSY

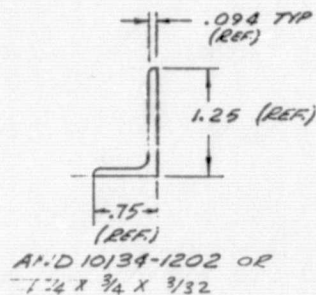
3 CRADLE ASSY

| | | | | | | | | | |
|----------------|----|----|------------|-------------------------|-----------------------------|------------------------------|------------------------|------|----------|
| 20 | 20 | 12 | | MS20426AD3 | RIVET | | | | 8 |
| 10 | 10 | 6 | | LS8837-03 | NUT, PLATE | | | | 7 |
| 1 | | | | -11 | CRADLE | .071 6061-T6 AL SHEET | QQ-A250/11 | | 6 |
| | 1 | | | -9 | CRADLE | | | | 5 |
| | | 1 | | -7 | CRADLE | .071 6061-T6 AL SHEET | | | 4 |
| 2 | | | | -5 | FLANGE | .10 6061-T6 AL SHEET | | | 3 |
| | 2 | | | -3 | FLANGE | | | | 2 |
| | | 2 | | -1 | FLANGE | .10 6061-T6 AL SHEET | QQ-A-250/11 | | 1 |
| QTY REQD | | | CODE IDENT | PART OR IDENTIFYING NO. | NOMENCLATURE OR DESCRIPTION | MATERIAL DESCRIPTION OR NOTE | MATERIAL SPECIFICATION | ZONE | ITEM NO. |
| -305 -303 -301 | | | | | | | | | |

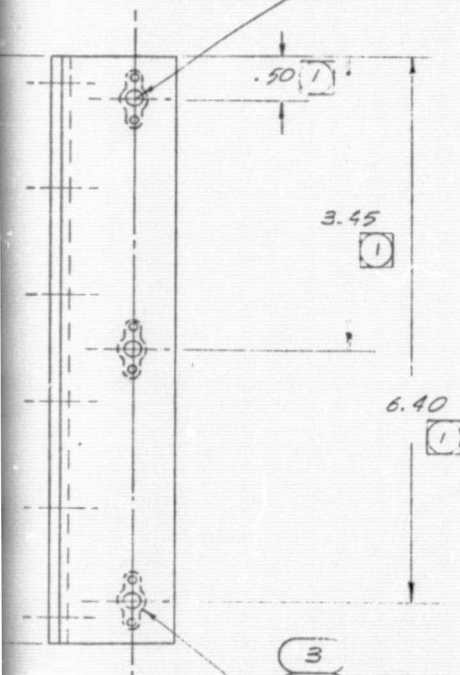
PARTS LIST

| | | | | | | | | |
|-------------------|--|---|--|-------------------------|---|------------|--------------|-----|
| INTERPRET DWG PER | | UNLESS OTHERWISE SPECIFIED DIM. ARE IN INCHES. TOLERANCES ON: | | DATE 13 APRIL 1973 | LOCKHEED MISSILES & SPACE COMPANY | | | |
| | | FRACTIONS = $\pm 1/16$ | | DR R.B. MAINE | A GROUP DIVISION OF LOCKHEED AIRCRAFT CORPORATION | | | |
| | | DECIMALS: .X = $\pm .1$ | | APPD | SUNNYVALE, CALIFORNIA | | | |
| | | .XX = $\pm .03$ | | APPD | CRADLE ASSY'S - COMPONENT SUPPORT TCCS | | | |
| | | .XXX = $\pm .010$ | | ENGRG | | | | |
| | | ANGLES = ± 2 DEG | | CHK <i>W. J. S-4-73</i> | | | | |
| CC-128 TCCS | | CONTR | | APPD | SIZE | CODE IDENT | DRAWING NO. | REV |
| NEXT ASSY USED ON | | CCA/CEI | | APPD | D | | CC-126 | |
| APPLICATION | | | | | SCALE 1/2 | | SHEET 1 OF 1 | |

| | | | | | | | | | |
|---|--|---|--|-----------------------|--|------------------------|--|-------------|------|
| 5 | | 4 | | 3 | | 2 | | 1 | |
| | | | | | | REVISIONS | | | |
| | | | | LIMITED CALENDAR LIFE | | LIMITED OPERATING LIFE | | DESCRIPTION | |
| | | | | | | ZONE LTR | | DATE | APPD |



198
204 DIA HOLE
3 PLACES
1



3
4 FASTEN WITH:
MS20426AD3 RIVETS
MPS HEAD ON FLANGE
FACE

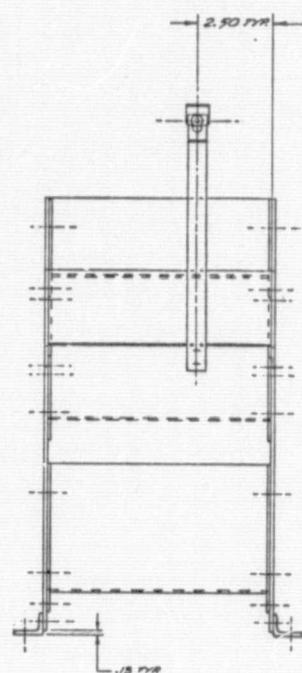
MS RIVETS
(REF)

| 12 | | MS20426AD5 | RIVET | | | | 5 |
|----------|------------|-------------------------|-----------------------------|---|------------------------|------|----------|
| 12 | | MS20426AD3 | RIVET | | | | 4 |
| 6 | | L58837-3 | NUT, PLATE | | | | 3 |
| 2 | | -3 | ANGLE - EXT. | AND 10134-1202 OR 1 1/4 X 3/4 X 3/32 AL SHEET | QQ-A-250/11 | | 2 |
| 1 | | -1 | PLATE | 125 6061-T6 AL SHEET | QQ-A-250/11 | | 1 |
| QTY REQD | CODE IDENT | PART OR IDENTIFYING NO. | NOMENCLATURE OR DESCRIPTION | MATERIAL DESCRIPTION OR NOTE | MATERIAL SPECIFICATION | ZONE | ITEM NO. |
| -301 | | | | | | | |

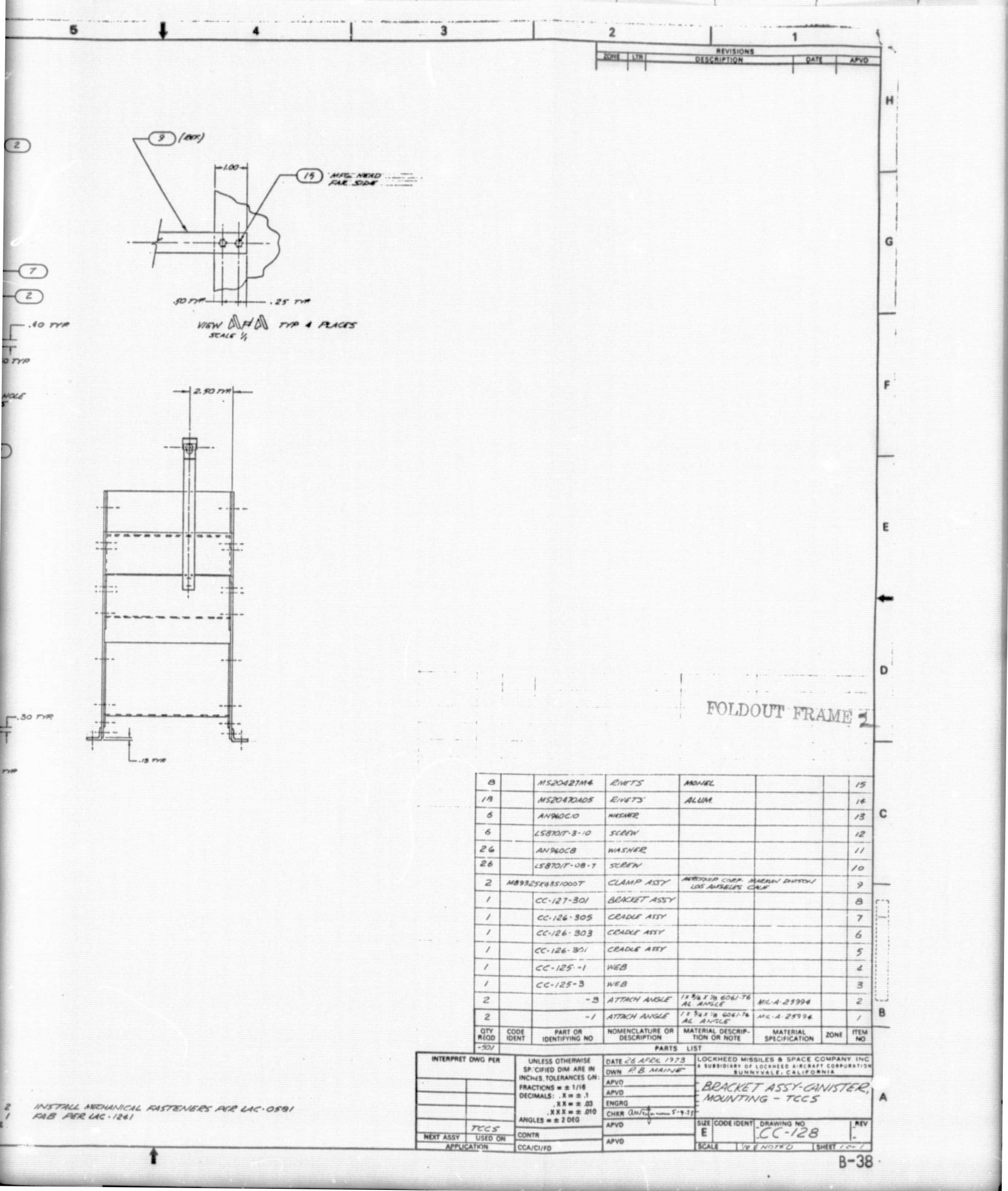
| | | | | | | |
|-------------------|---------|--|--------------------|---------------|---|--------------|
| INTERPRET DWG PER | | UNLESS OTHERWISE SPECIFIED DIM. ARE IN INCHES. TOLERANCES ON: FRACTIONS = $\pm 1/16$ DECIMALS: .X = $\pm .1$.XX = $\pm .03$.XXX = $\pm .010$ ANGLES = ± 2 DEG | PARTS LIST | | LOCKHEED MISSILES & SPACE COMPANY A GROUP DIVISION OF LOCKHEED AIRCRAFT CORPORATION SUNNYVALE, CALIFORNIA | |
| | | | DATE 20 APRIL 1973 | DR R.B. MAINE | BRACKET - EQUIP MOUNTING - TCCS | |
| | | | APPD | | | |
| | | | APPD | | | |
| | | | ENGRG | | | |
| | | | CHK J.W. 5-4-73 | | | |
| CC-128 | TCCS | CONTR | APPD V | SIZE | CODE IDENT | DRAWING NO. |
| NEXT ASSY | USED ON | CCA/CEI | APPD | D | | CC-127 |
| APPLICATION | | | | SCALE 1/1 | | SHEET 1 OF 1 |

B-37

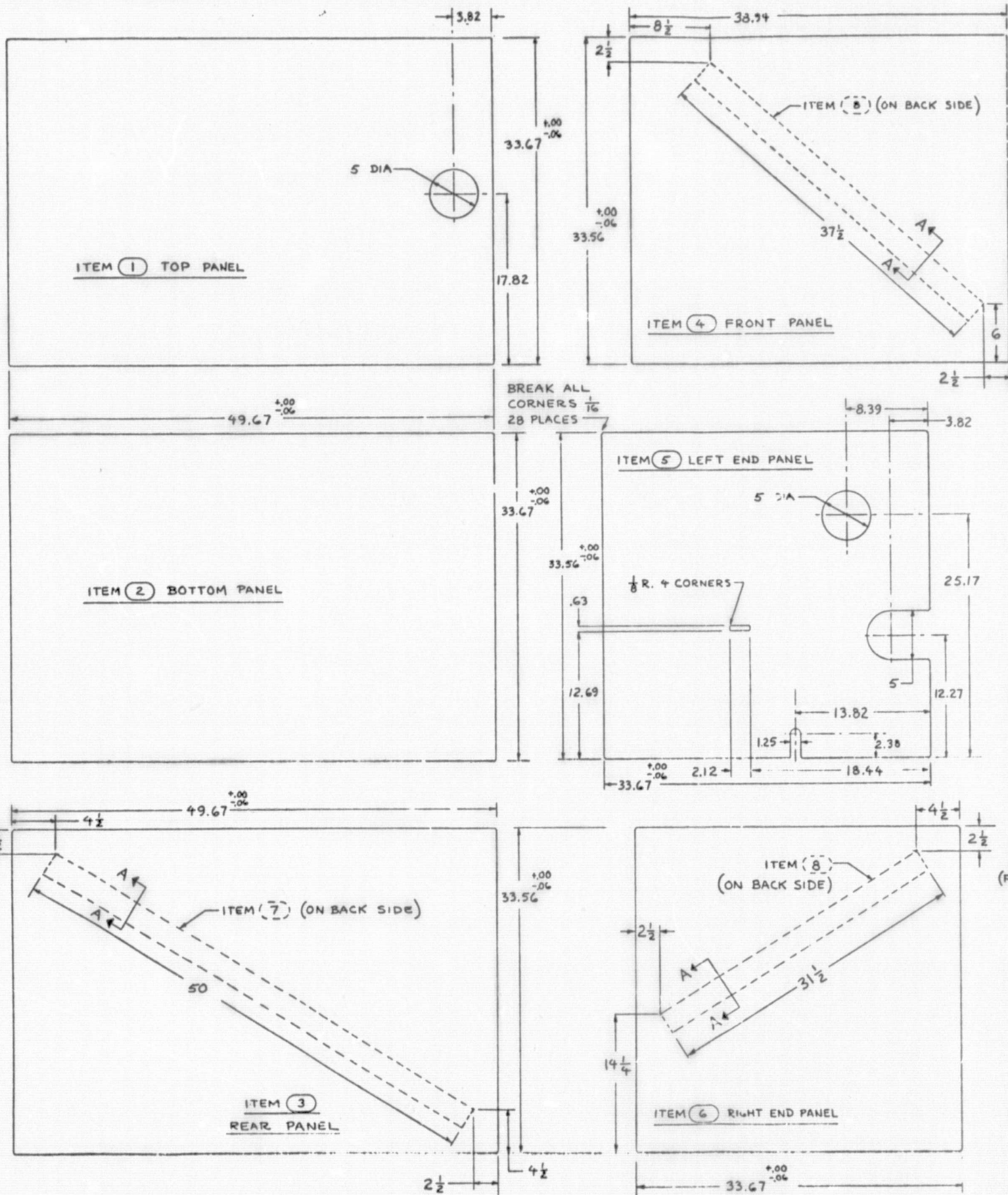
FOLDOUT FRAME 2



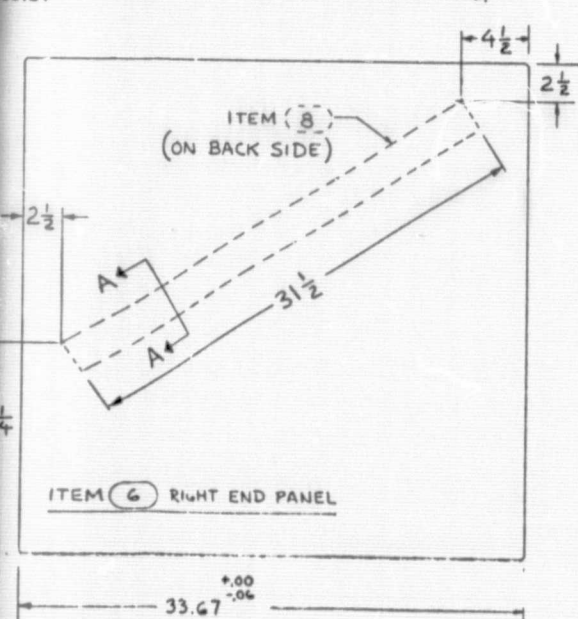
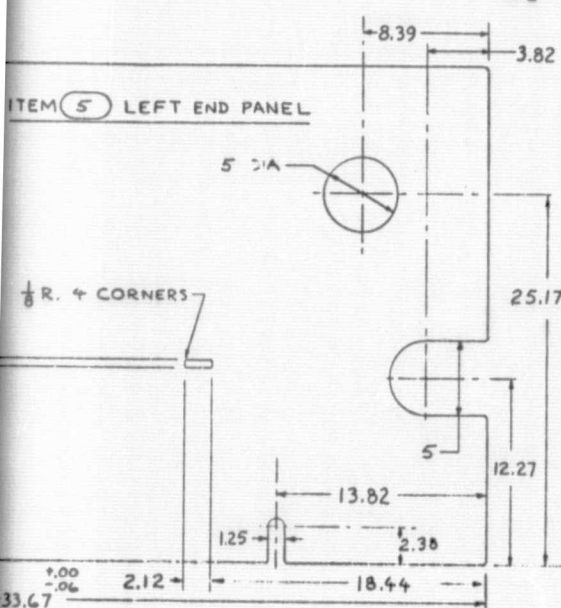
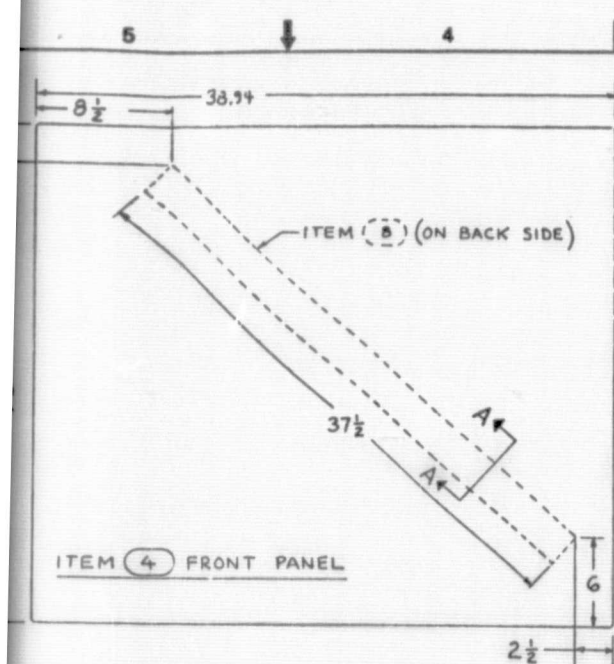
ORIGINAL PAGE IS



H
G
F
E
D
C
B
A

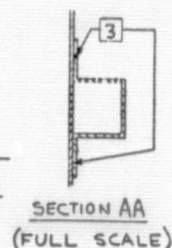


SEC
(FUL)



- NOTES
1. FRONT SIDE OF ALL PANELS SHOULD BE KEPT FREE OF SCRATCHES, DISCOLORATION, etc.
 2. AFTER MACHINING & BEFORE BONDING, FINISH ITEMS 1 THRU 8 PER LAC-0498-010000.
 3. AFTER IRIDITING, BOND HAT SECTIONS TO PANELS PER LAC 3013-040300. SOLVENT CLEAN AREAS TO BE BONDED FIRST.

| REVISES | | DATE | | APVD | |
|---------|-----|----------------|--------|------|--|
| ZONE | LTN | DESCRIPTION | | | |
| 5H | A | 38.94 W49 3905 | 7-6-73 | AW | |



| | | | | | | | |
|-------------|---------------|----------------------------------|--------------------------------|-----------------------------------|---------------------------|------|------------|
| A.R. | | EPOXY | | LAC 30-4172 | 9 | | |
| 2 | | | | | 8 | | |
| 1 | | HAT SECTION 2.36 X .315 X .06 | PIONEER (LA) XTEV #PA-10649 | 2024 T 3511 PHONE 213-255-3511 | 7 | | |
| 1 | | RIGHT END | | | 6 | | |
| 1 | | LEFT END | | | 5 | | |
| 1 | | FRONT | | | 4 | | |
| 1 | | REAR | .063 THICK | 6061 T6 | 3 | | |
| 1 | | BOTTOM | .125 THICK | 6061 T6 | 2 | | |
| 1 | | TOP | .125 THICK | 6061 T6 | 1 | | |
| QTY REQD | CODE IDENT | PART OR IDENTIFYING NO | NOMENCLATURE OR DESCRIPTION | MATERIAL DESCRI- TION OR NOTE | MATERIAL SPECIFICATION | ZONE | ITEM NO |

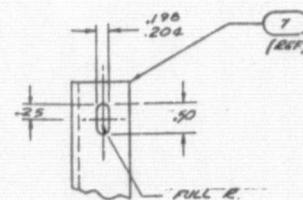
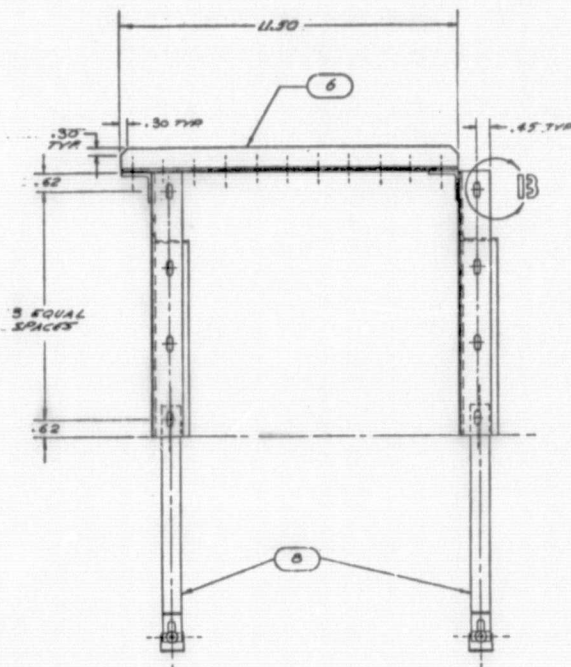
| | | | |
|--|--|-------|-----|
| INTERPRET DIMS PER | | DATE | 1/1 |
| SPECIFIED DIM ARE IN INCHES TOLERANCES ON: | | DWN | 1/1 |
| FRACTIONS = $\pm 1/16$ | | APVD | |
| DECIMALS = $\pm .01$ | | APVD | |
| ANGLES = ± 2 DEG | | ENGRG | |
| NEXT ASSY USED ON | | CHER | 1/1 |
| APPLICATION | | APVD | |
| CONTR | | APVD | |
| CCA/CIFD | | APVD | |
| COVER PANELS | | DATE | 1/1 |
| TCCS | | DATE | 1/1 |
| SIZE CODE IDENT DRAWING NO | | DATE | 1/1 |
| E | | DATE | 1/1 |
| CC-129 | | DATE | 1/1 |
| SCALE 1/2 | | DATE | 1/1 |
| SHEET 1 OF 1 | | DATE | 1/1 |

FOLDOUT FRAME B-39

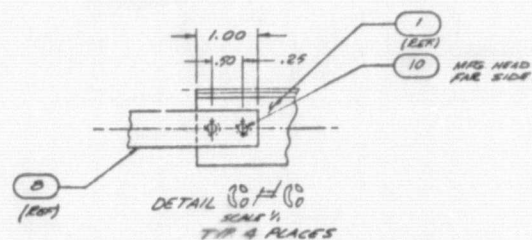
ORIGINAL PAGE IS
OF POOR QUALITY

3. AL EXTRUSION CAN BE PURCHASED FROM
PACIFIC METALS, SAN FRANCISCO, CALIF.
2. INSTALL MECHANICAL FASTENERS PER LAC-0581
1. FAB PER LAC-1241

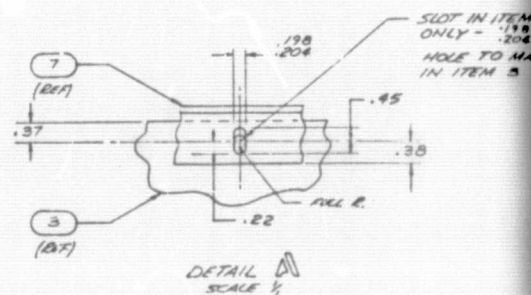
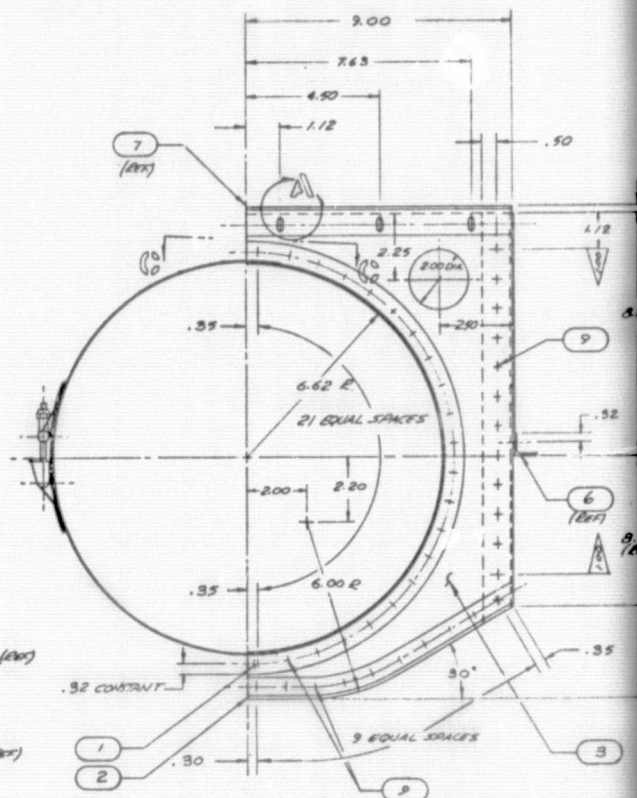
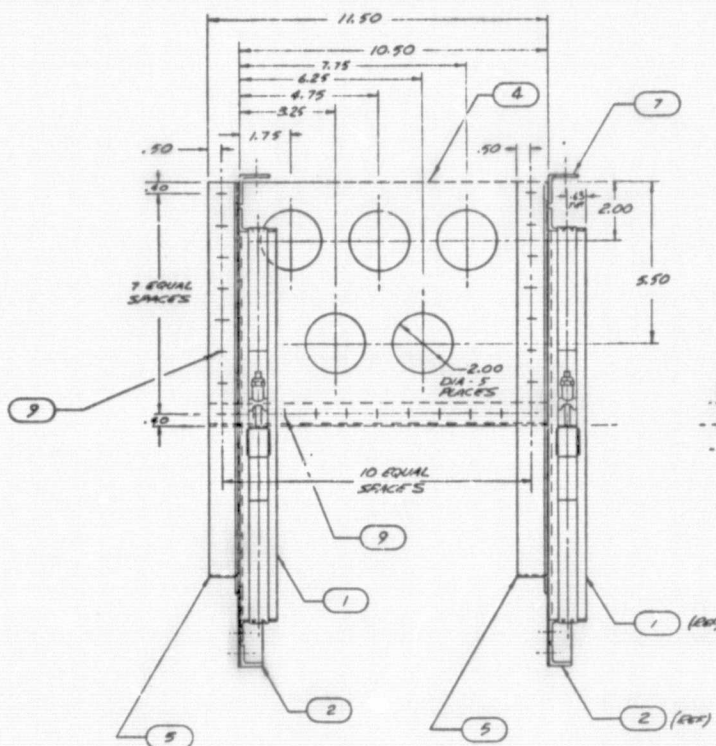
NOTES:



DETAIL 13
SCALE 1/2
TYP 8 PLACES



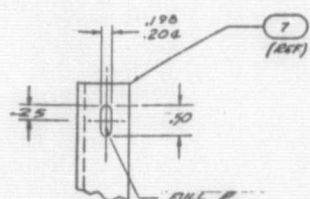
DETAIL 10
SCALE 1/2
TYP 4 PLACES



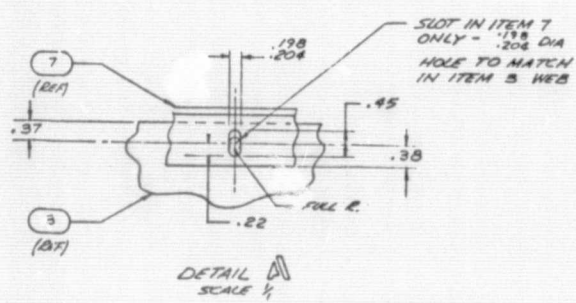
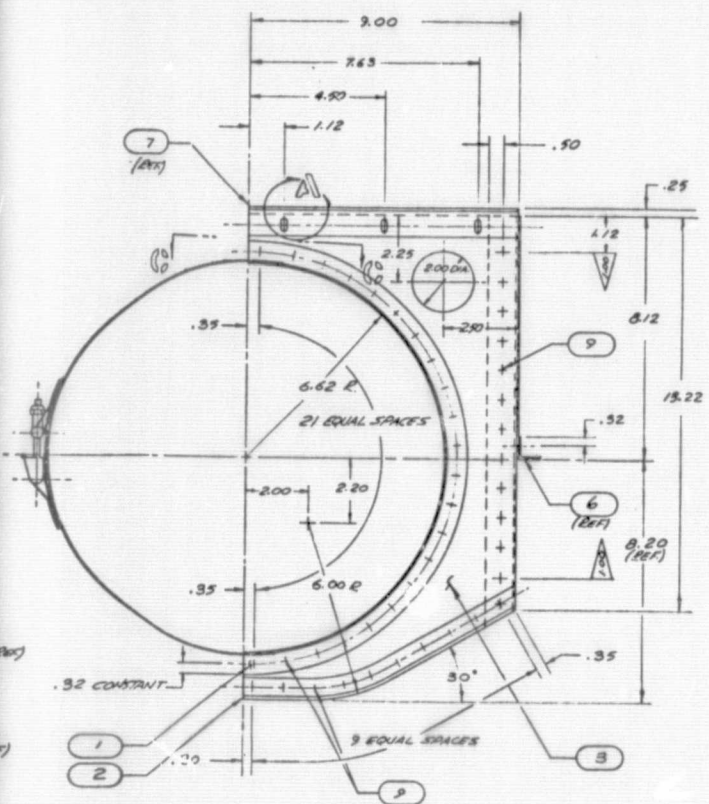
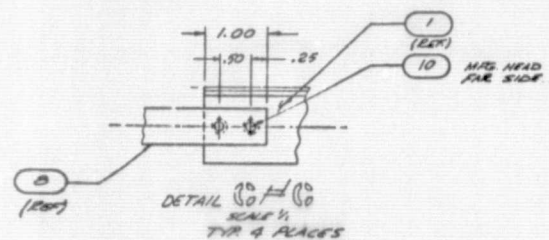
DETAIL A
SCALE 1/2

OLDONT FRAME

| REVISIONS | | | | |
|-----------|------|-------------|----|------|
| REV | DATE | DESCRIPTION | BY | APPD |



DETAIL 13
SCALE 1/2
TYP 8 PLACES



| QTY | REQD | CODE | IDENT | PART OR IDENTIFYING NO | NOMENCLATURE OR DESCRIPTION | MATERIAL DESCRIPTION OR NOTE | MATERIAL SPECIFICATION | QTY | ITEM NO |
|-----|------|------|-------|------------------------|-----------------------------|--|------------------------|-----|---------|
| 8 | | | | MS20427M6 | RIVET | | | | 10 |
| 114 | | | | MS20870A06 | RIVETS | | | | 9 |
| 2 | | | | MS9325K63S/325T | CLAMP ASSY | APPROX 1000' COOP. MICHIGAN ON 100' LOS ANGELES CALIF. | | | 8 |
| 2 | | | | -13 | ANGLE | 1X1X.125 6061-T6 AL | ML-A-25996 | 3 | 7 |
| 1 | | | | -11 | ANGLE | 3/4X3/4X1/4 6061-T6 AL | ML-A-25994 | 3 | 6 |
| 2 | | | | -9 | ANGLE | 1/2X1/2 6061-T6 AL | ML-A-25998 | 3 | 5 |
| 1 | | | | -7 | WEB | .071 6061-T6 AL SHEET | QQ-A-250/11 | | 4 |
| 2 | | | | -5 | WEB | .071 6061-T6 AL SHEET | QQ-A-250/11 | | 3 |
| 2 | | | | -3 | ANGLE | 3/4X3/4X.125 | ML-A-25996 | 3 | 2 |
| 2 | | | | -1 | ANGLE | 1/4X1/4X.12 6061-T6 AL | ML-A-25774 | 3 | 1 |

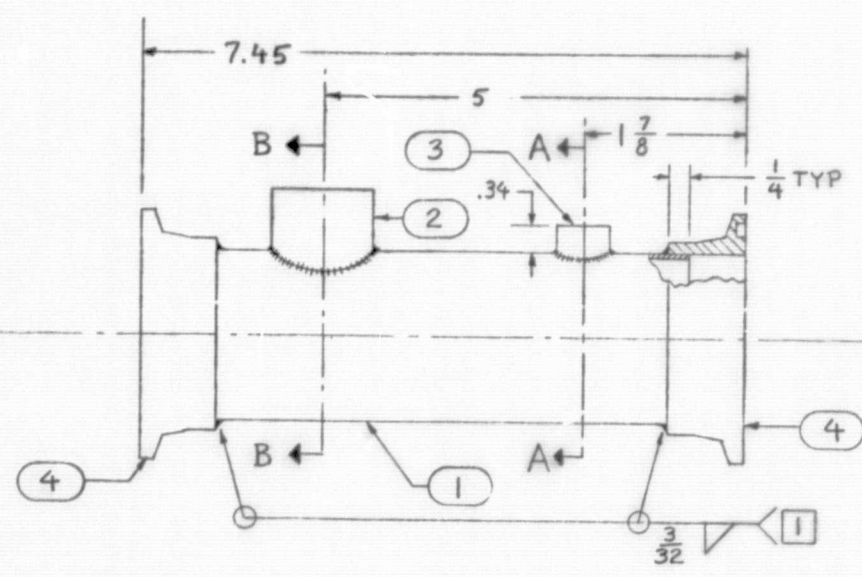
| | | | | | |
|---|--|------------------------------|--|---|--|
| INTERPRET DWG PER | | DATE 3/15/1973 | | LOCKHEED MISSILES & SPACE COMPANY, INC. | |
| UNLESS OTHERWISE SPECIFIED DIM ARE IN INCHES TOLERANCES ON: | | OWN P.B. MAINE | | A SUBSIDIARY OF LOCKHEED AIRCRAFT CORPORATION | |
| FRACTIONS = ± 1/16 | | APVD | | SUNNYVALE, CALIFORNIA | |
| DECIMALS: .X = ± .1 | | APVD | | BRACKET - MOUNTING, | |
| .XXX = ± .03 | | ENGRG | | FIXED BED | |
| .XXX = ± .010 | | CHKD <i>W. J. ...</i> 5-8-77 | | TCCS | |
| ANGLES = ± 2 DEG | | APVD | | SIZE CODE IDENT | |
| TCCS | | CONTR | | DRAWING NO | |
| NEXT ASSY USED ON | | APVD | | CC-130 | |
| APPLICATION | | CCA/C/D | | SCALE | |
| | | | | 1/2" NOTED | |
| | | | | SHEET 1 OF 1 | |

FOLDOUT FRAME B-40

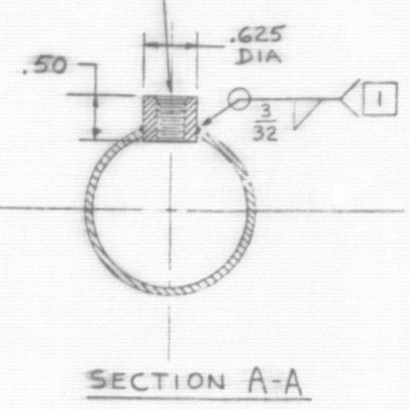
| | | | | | | | | |
|-------------------|---------|--|--------------|---|---|------------|--------------|-----|
| INTERPRET DWG PER | | UNLESS OTHERWISE SPECIFIED DIM. ARE IN INCHES. TOLERANCES ON: FRACTIONS = $\pm 1/16$ DECIMALS: .X = $\pm .1$.XX = $\pm .03$.XXX = $\pm .010$ ANGLES = ± 2 DEG | PARTS LIST | | LOCKHEED MISSILES & SPACE COMPANY A GROUP DIVISION OF LOCKHEED AIRCRAFT CORPORATION SUNNYVALE, CALIFORNIA | | | |
| | | | DATE 5-10-73 | | SHELF, ELECTRONICS | | | |
| | | | DR Aw | | | | | |
| | | | APPD | | | | | |
| | | | APPD | | | | | |
| | | | ENGRG | | | | | |
| | | | CHK | | | | | |
| | | | APPD | | SIZE | CODE IDENT | DRAWING NO. | REV |
| NEXT ASSY | USED ON | CONTR | | D | | | CC-131 | |
| APPLICATION | | CCA/CEI | APPD | | SCALE: HALF | | SHEET 1 OF 1 | |

8 7 6 5 4

D
C
B
A



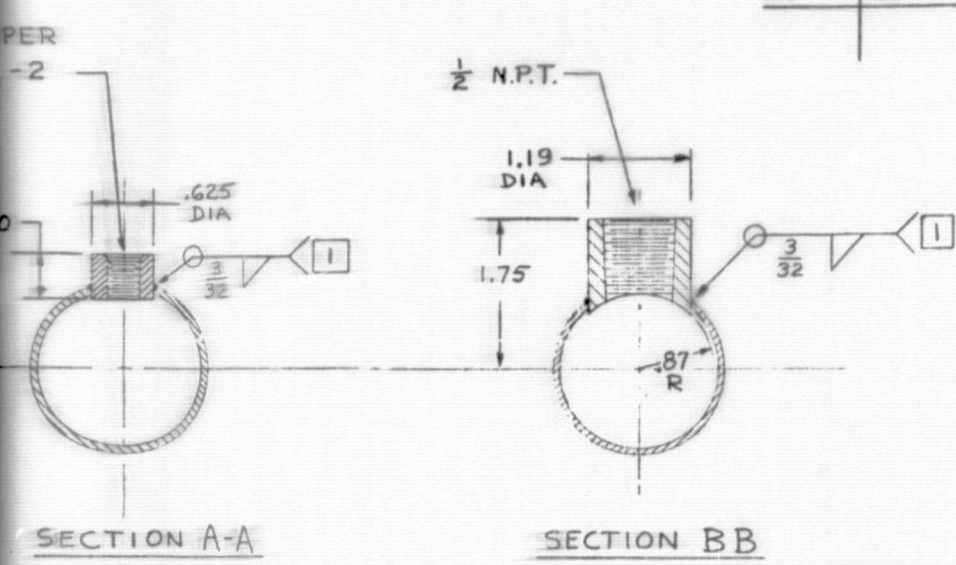
MACHINE PER
MS-33649 -2



NOTES

- 1 WELD PER LAC 3853-050200. WELD MUST BE VACUUM TIGHT.
2. CLEAN PER LAC 0170 AFTER ALL MFG. OPERATIONS & PENETRANT WELD INSPECTION HAVE BEEN COMPLETED.

FOLDOUT FRAME }



| | | | | | | | |
|-------------|---------------|----------------------------|----------------------------------|---------------------------------|---------------------------|------|-------------|
| 2 | | GROOVED TUBE FLANGE | AEROQUIP MARMAN MFM5703-A-200 | 6061 | 4 | | |
| 1 | | BOSS | .625 DIA BAR | 6061 T6 | 3 | | |
| 1 | | BOSS | 1 1/4 DIA. BAR | 6061 T6 | 2 | | |
| 1 | | TUBE | 2 O.D. x .083 W | 6061 T6 | 1 | | |
| | | | | | | | |
| QTY REQD | CODE IDENT | PART OR IDENTIFYING NO. | NOMENCLATURE OR DESCRIPTION | MATERIAL DESCRIPTION OR NOTE | MATERIAL SPECIFICATION | ZONE | ITEM NO. |

INTERPRET DWG PER

UNLESS OTHERWISE SPECIFIED DIM. ARE IN INCHES. TOLERANCES ON:

FRACTIONS = ± 1/16

DECIMALS: .X = ± .1

.XX = ± .03

.XXX = ± .010

ANGLES = ± 2 DEG

CONTR

CCA/CEI

DATE 5-14-73

DR *OW*

APPD

APPD

ENGRG

CHK *RB* *Marie* 5-16-73

APPD

APPD

LOCKHEED MISSILES & SPACE COMPANY

A GROUP DIVISION OF LOCKHEED AIRCRAFT CORPORATION

SUNNYVALE, CALIFORNIA

DUCT, VACUUM - TO - VALVE

TCCS

SIZE D

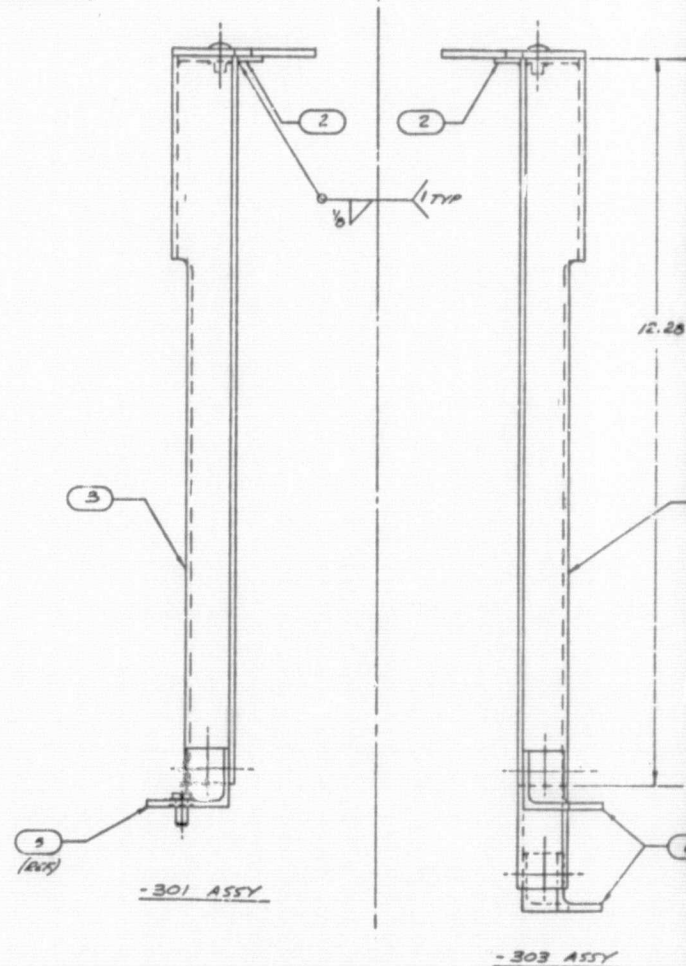
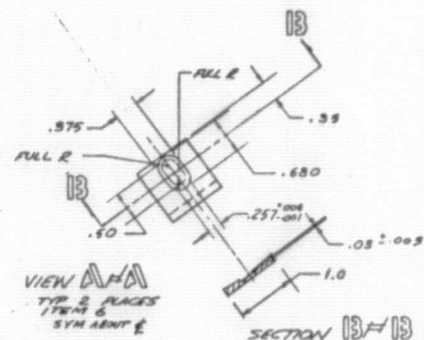
CODE IDENT

DRAWING NO. CC-132

REV

SCALE FULL

SHEET 1 OF 1



FOLDOUT FRAME

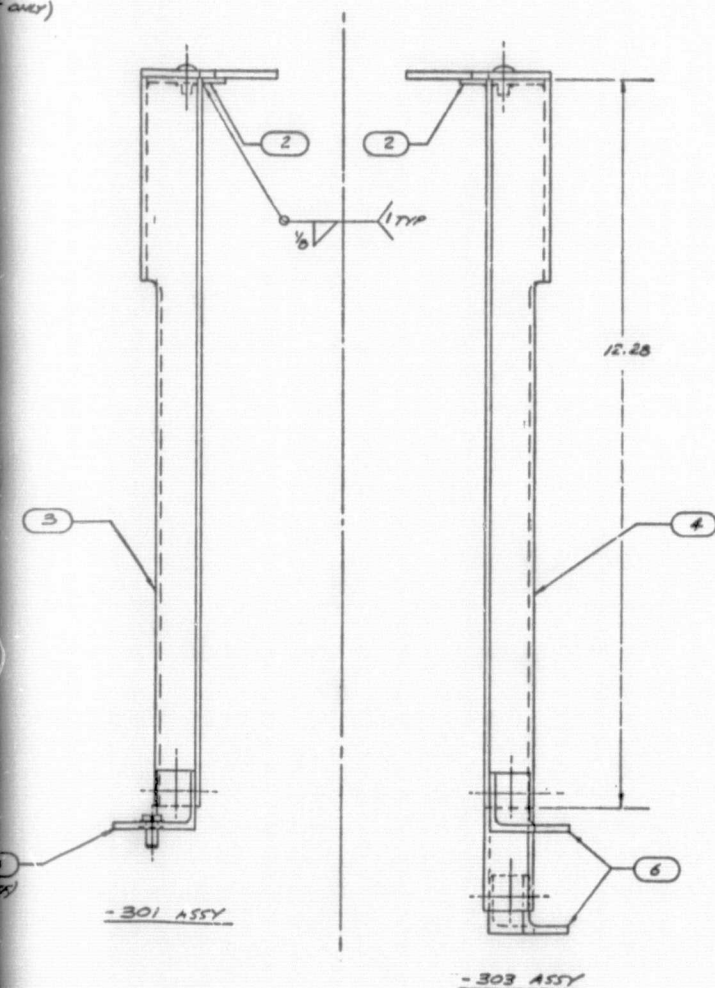
Technical drawing of a mechanical part showing two views: View A/A and Section B/B.

VIEW A/A

Dimensions and features:

- .575
- .39
- .680
- .90
- .257 (+.001, -.001)
- .05 ± .005
- 1.0

SECTION B/B

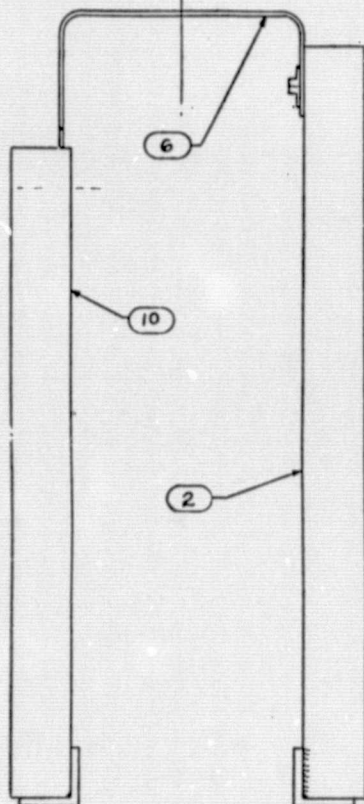
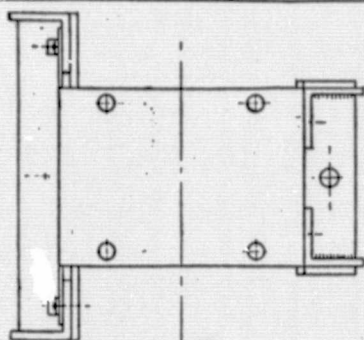


| | | | | | | | | |
|-------------|-------------|---------------|---------------------------|--------------------------------|---------------------------------------|---------------------------|------|---------|
| 2 | 2 | | DCT 7900-10-B-3 | CAPTIVE SCREW | DEUTSCHEN FASERWERK CORP. I.A. CALIF. | | 11 | |
| 2 | 2 | | LS8835-3 | NUT PLATE | | | 10 | |
| 8 | 8 | | MR20426AD3 | ENSET | | | 9 | |
| 2 | 4 | | LS87047-8-3 | SCREW | | | 8 | |
| 2 | 2 | | LS8837-8 | NUT PLATE | | | 7 | |
| 2 | | | -11 | FOOT | 1/1116 6061-T6 AL ANGLE | ML-A-2599g | 6 | |
| | 2 | | -9 | FOOT | 1/1116 6061-T6 AL ANGLE | MR-A-2599d | 5 | |
| 1 | | | -7 | LEGS | .090 6061-T6 AL SHEET | QQ-A-250/11 | 4 | |
| | 1 | | -5 | LEGS | .090 6061-T6 AL SHEET | QQ-A-250/11 | 3 | |
| 1 | 1 | | -3 | SUPEROET | .090 6061-T6 AL SHEET | QQ-A-250/11 | 2 | |
| 1 | 1 | | -1 | PLATE | .125 6061-T6 AL SHEET | QQ-A-250/11 | 1 | |
| QTY REQD | QTY REQD | CODE IDENT | PART OR IDENTIFYING NO | NOMENCLATURE OR DESCRIPTION | MATERIAL DESCRIP- TION OR NOTE | MATERIAL SPECIFICATION | ZONE | ITEM NO |

| | | | | | | | |
|-------------------|--|--|--|--------------------------|--|---|--|
| INTERPRET DWG PER | | UNLESS OTHERWISE SPECIFIED DIM ARE IN INCHES TOLERANCES ON: FRACTIONS: $\pm 1/16$ DECIMALS: $\pm .01$ ANGLES = ± 2 DEG | | DATE 5-15-78 DWN 28 MAIN | | LOCKHEED MISSILES & SPACE COMPANY INC. A SUBSIDIARY OF LOCKHEED AIRCRAFT CORPORATION BUNNVALE, CALIFORNIA | |
| TCCS | | CONTR | | APVD | | BRACKET ASSY - VACUUM VALVE TCCS | |
| NEXT ASSY USED ON | | OCCASION | | APVD | | SIZE E CODE IDENT DRAWING NO CC-133 REV | |
| APPLICATION | | | | APVD | | SCALE V. 1 SHEET 1 OF 1 | |

INSTALL MECHANICAL FASTENERS PER LAC-0581
B. PER LAC-124!
LD PER LAC-3953-050300

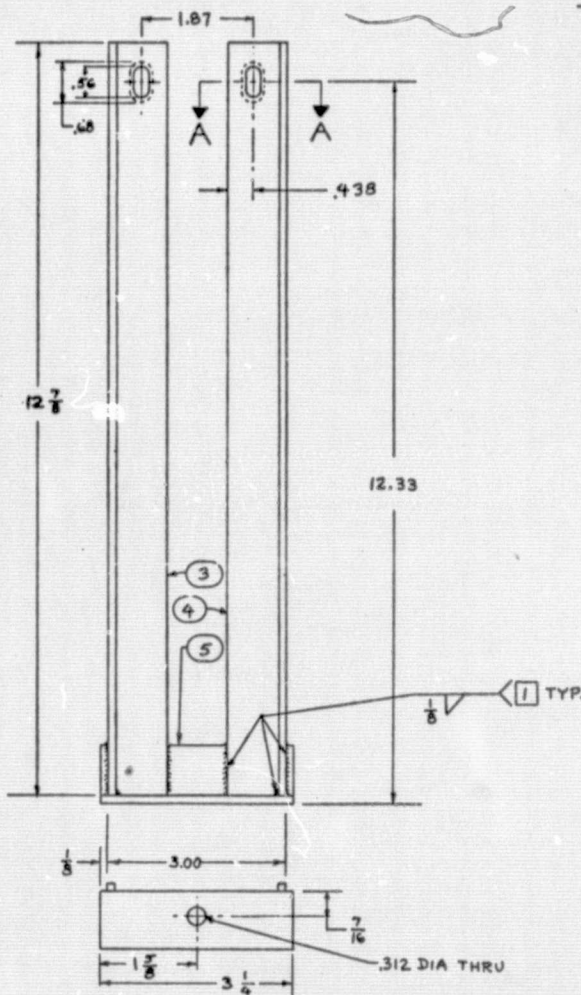
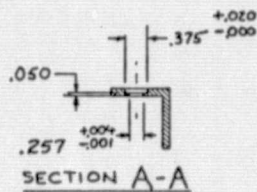
FOLDOUT FRAME B-43



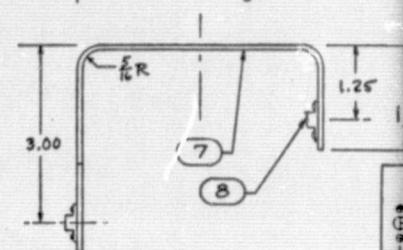
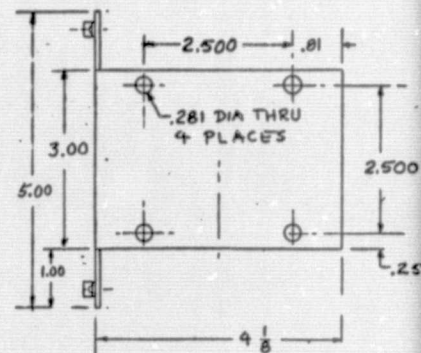
BRACKET ASS'Y.

NOTES

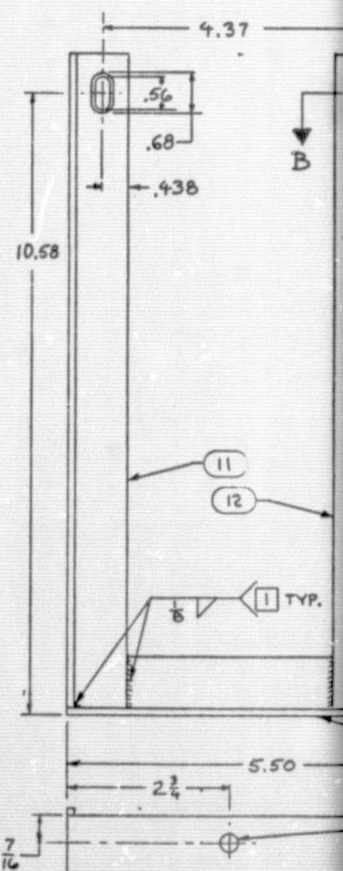
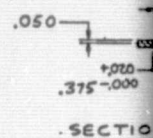
- 1 WELD PER LAC 3853-05D300.
2. INSTALL RIVETS & PLATE NUTS PER LAC-0581.



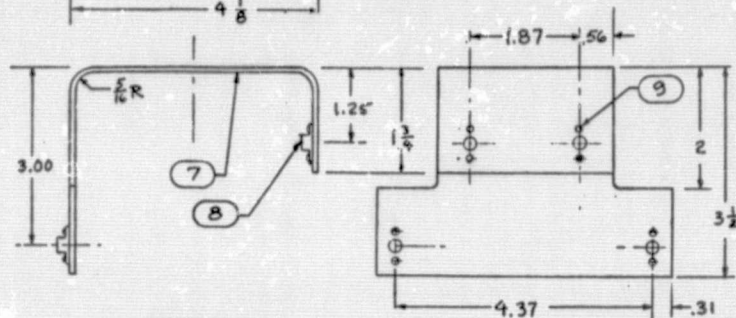
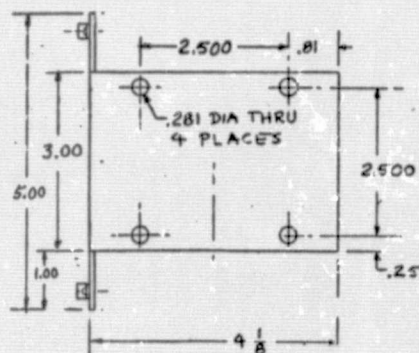
2 LONG STILT SUBASS'Y.



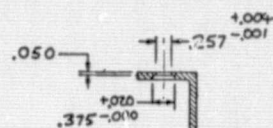
6 MOUNTING PAD SUBASS'Y.



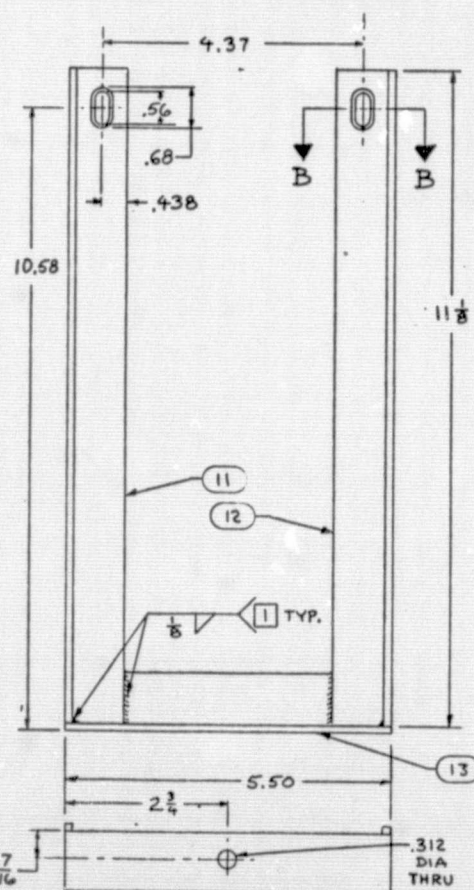
10 SHORT STILT SUBASS'Y.



6 MOUNTING PAD SUBASS'Y.



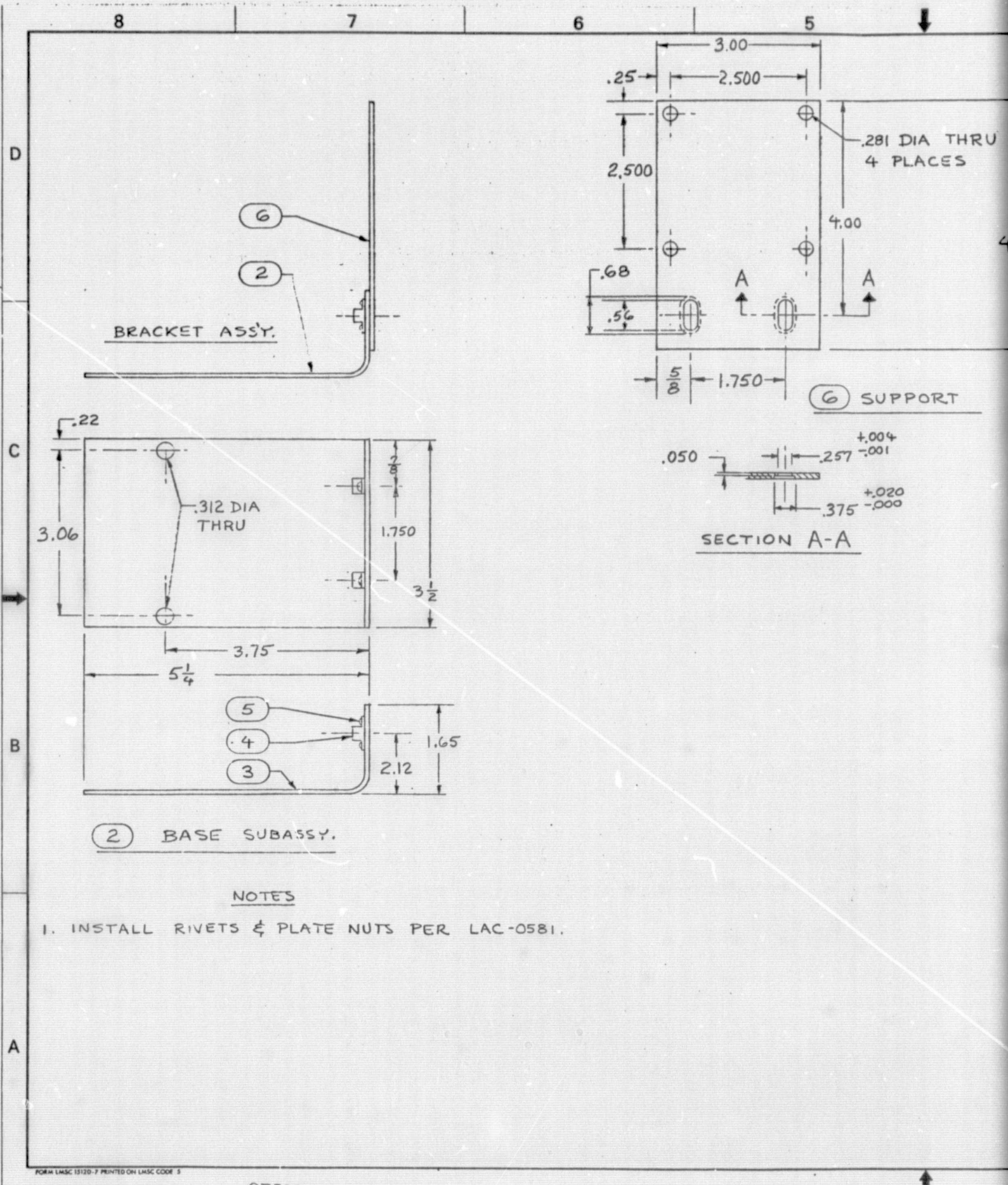
SECTION B-B



10 SHORT STILT SUBASS'Y.

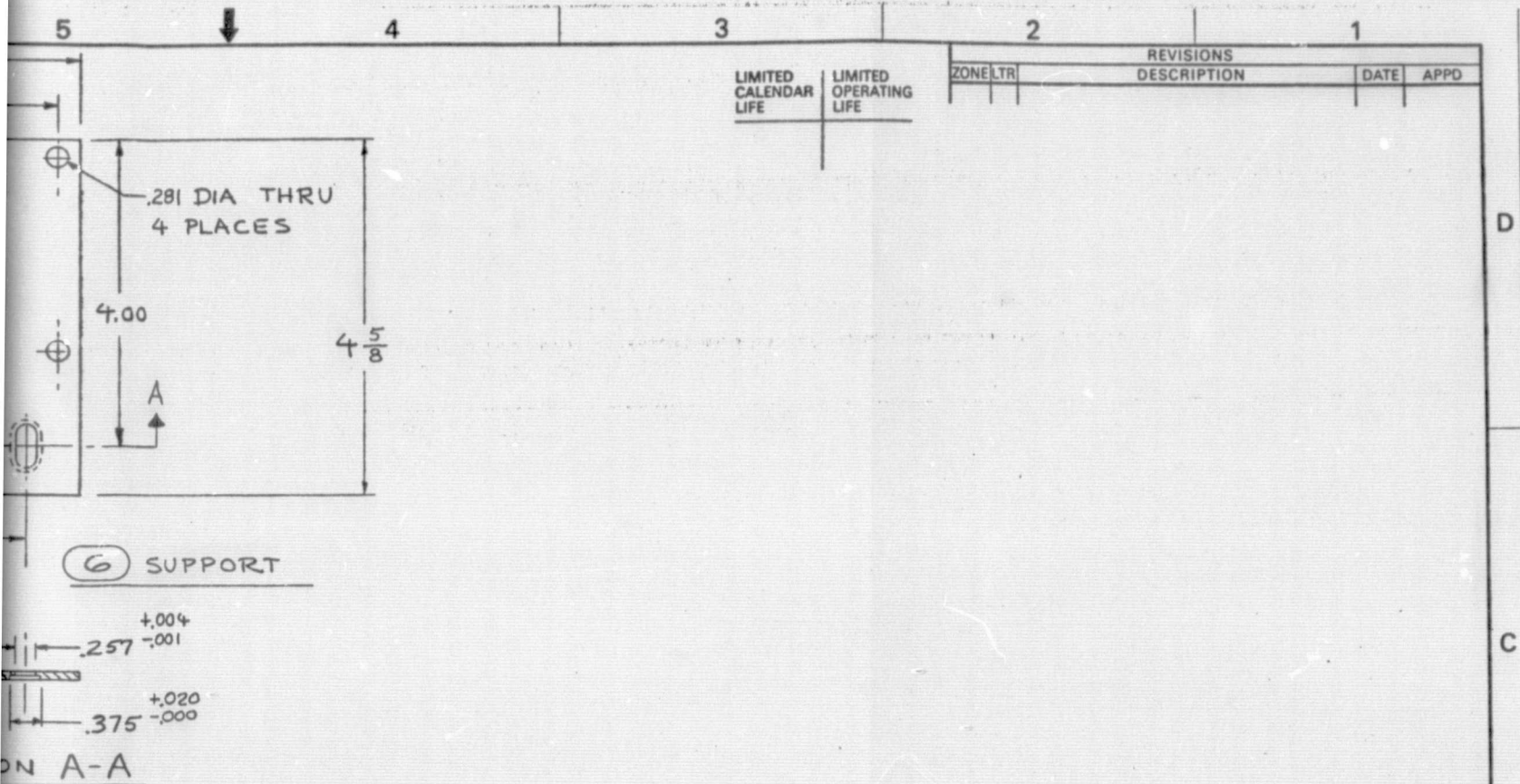
| QTY REQD | CODE IDENT | PART OR IDENTIFYING NO | NOMENCLATURE OR DESCRIPTION | MATERIAL DESCRIPTION OR NOTE | MATERIAL SPECIFICATION | ZONE | ITEM NO |
|----------|------------|------------------------|-----------------------------|------------------------------|------------------------|------|---------|
| 1 | | | FOOT | | | | 13 |
| 1 | | | RIGHT SHORT STILT | | | | 12 |
| 1 | | | LEFT SHORT STILT | 1 X 1 X 1/8 ANGLE | 6061 T6 | | 11 |
| 1 | | | SHORT STILT SUBASS'Y. | ITEMS 11, 12, 13 | | | 10 |
| 8 | | MS20426 AD3 | RIVET, FLUSH | ALUM | 2117-T4 | | 9 |
| 4 | | LS 8837-3 | PLATE NUT | | | | 8 |
| 1 | | | MTG. PAD | .080 SHEET | 6061 T6 | | 7 |
| 1 | | | MTG. PAD SUBASS'Y. | ITEMS 7, 8, 9 | | | 6 |
| 1 | | | PEDESTAL | | | | 5 |
| 1 | | | RIGHT LONG STILT | | | | 4 |
| 1 | | | LEFT LONG STILT | 1 X 1 X 1/8 ANGLE | 6061 T6 | | 3 |
| 1 | | | LONG STILT SUBASS'Y. | ITEM 3, 4, 5 | | | 2 |
| 1 | | | BRKT. ASS'Y. | ITEMS 2, 6, 10 | | | 1 |

| INTERPRET DWG PER | | UNLESS OTHERWISE SPECIFIED DIM ARE IN INCHES TOLERANCES ON: | | DATE 7-12-73 | | LOCKHEED MISSILES & SPACE COMPANY, INC | |
|-------------------|--|---|--|--------------|--|---|--|
| | | FRACTIONS = ± 1/16 | | DWN | | A SUBSIDIARY OF LOCKHEED AIRCRAFT CORPORATION | |
| | | DECIMALS = .XX = ± .01 | | APVD | | SUNNYVALE, CALIFORNIA | |
| | | ANGLES = ± 2 DEG | | ENGRG | | BRACKET, | |
| | | | | CHKR | | BLOWER SOLENOID VALVE | |
| | | | | APVD | | TCCS | |
| | | | | | | SIZE CODE IDENT DRAWING NO | |
| | | | | | | E CC-134 | |
| | | | | | | SCALE FULL | |
| | | | | | | SHEET 1 OF 1 | |



FOLDOUT FRAME /

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| | | | | | | | |
|----------|-------------|-------------------------|-----------------------------|------------------------------|------------------------|------|----------|
| 1 | | SUPPORT | .125 SHEET | 6061 T6 ALUM. | 6 | | |
| 4 | MS 20426AD3 | RIVET, FLUSH | ALUM. | 2117-T4 | 5 | | |
| 2 | LS-8837-3 | PLATE NUT | | | 4 | | |
| 1 | | BASE | .125 SHEET | 6061 T6 ALUM. | 3 | | |
| 1 | | BASE SUBASSY. | ITEMS 3,4,5 | | 2 | | |
| 1 | | BRKT. ASSY. | ITEMS 2,6 | | | | |
| QTY REQD | CODE IDENT | PART OR IDENTIFYING NO. | NOMENCLATURE OR DESCRIPTION | MATERIAL DESCRIPTION OR NOTE | MATERIAL SPECIFICATION | ZONE | ITEM NO. |

| INTERPRET DWG PER | | UNLESS OTHERWISE SPECIFIED DIM. ARE IN INCHES. TOLERANCES ON: | | DATE 7-30-73 | | LOCKHEED MISSILES & SPACE COMPANY A GROUP DIVISION OF LOCKHEED AIRCRAFT CORPORATION SUNNYVALE, CALIFORNIA | |
|-------------------|---------|---|--|--------------|----|---|--------------|
| | | FRACTIONS = ± 1/16 | | DR | Aw | BRACKET - PRESORB SOLENOID VALVE TCCS | |
| | | DECIMALS: .X = ± .1 | | APPD | | | |
| | | .XX = ± .03 | | ENGRG | | | |
| | | .XXX = ± .010 | | CHK | | | |
| | | ANGLES = ± 2 DEG | | APPD | | SIZE CODE IDENT | DRAWING NO. |
| NEXT ASSY | USED ON | CONTR | | APPD | | D | CC-135 |
| APPLICATION | | CCA/CEI | | APPD | | SCALE FULL | SHEET 1 OF 1 |

B-45

FOLDOUT FRAME

H

G

F

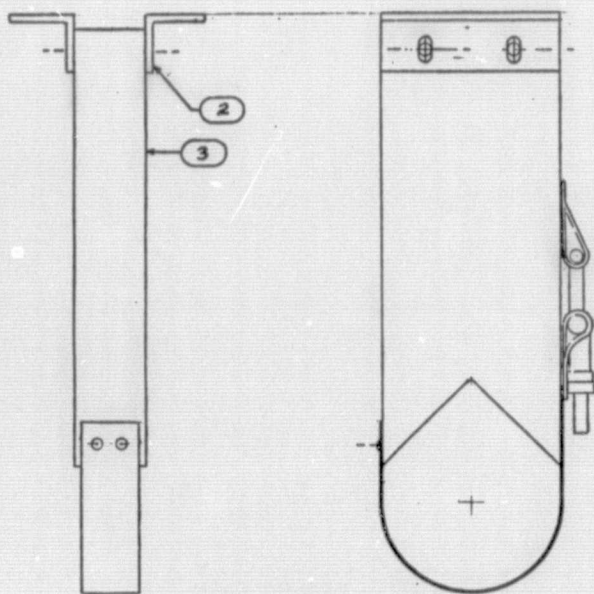
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D

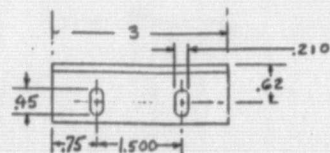
C

B

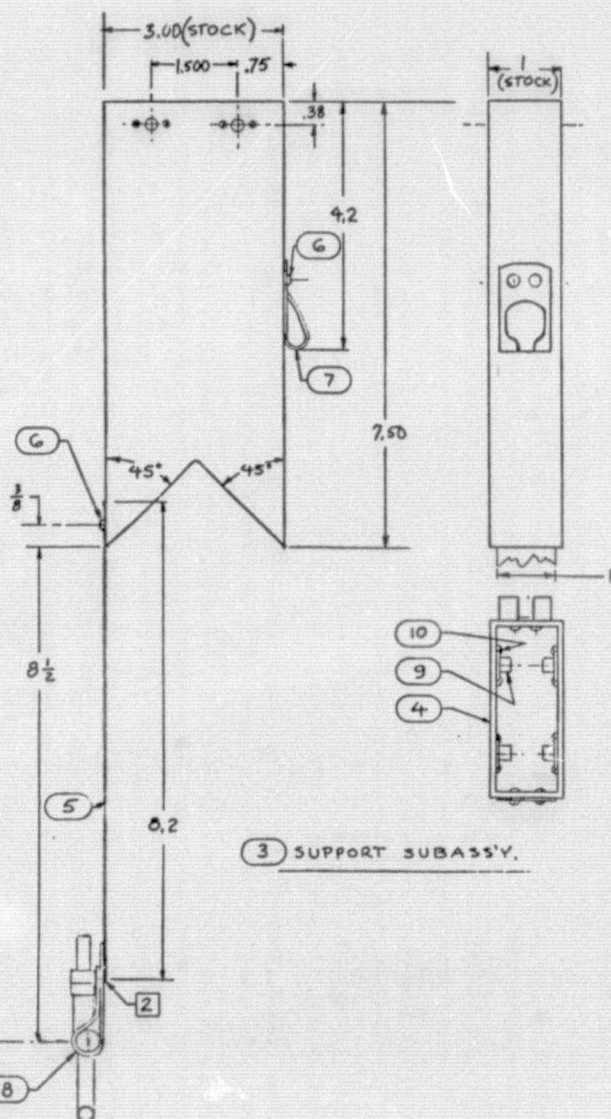
A



FINAL ASS'Y.



(2) BASE



(3) SUPPORT SUBASS'Y.

NOTES

1. INSTALL RIVETS & PLATE NUTS PER LAC-0581.
2. RIVET (USING ITEM 6) OR SPOTWELD ITEM 8 TO ITEM 5.

5

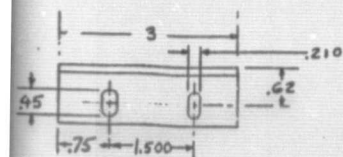
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1

| ZONE | | LTR | | REVISIONS | | DATE | APVD |
|-------------|--|-----|--|-----------|--|------|------|
| DESCRIPTION | | | | | | | |



2 BASE

NOTES

4 PLATE NUTS PER

OR SPOTWELD ITEM 8

| QTY REQD | CODE IDENT | PART OR IDENTIFYING NO | NOMENCLATURE OR DESCRIPTION | MATERIAL DESCRIPTION OR NOTE | MATERIAL SPECIFICATION | ZONE | ITEM NO |
|----------|------------|------------------------|-----------------------------|------------------------------|------------------------|------|---------|
| 8 | | MS20426AD3 | RIVET, FLUSH | ALUM. | | | 10 |
| 4 | | LS-8837-3 | PLATE NUT | | | | 9 |
| 1 | | FURNISHED | HARMAN CLAMP | | | | 8 |
| 1 | | FURNISHED | HARMAN CLAMP | | | | 7 |
| 6 | | MS 20615-3M | RIVET $\frac{3}{16}$ SHANK | MONEL | | | 6 |
| 1 | | | STRAP | .015 TO .020 STAINLESS STEEL | | | 5 |
| 1 | | 08-030-7125000 | SUPPORT | 3X1X.083 RECT. TUBE | 6061 T6 | | 4 |
| 1 | | | SUPPORT SUBASSY. | ITEMS | | | 3 |
| 2 | | | BASE | 1X1X $\frac{1}{8}$ ANGLE | 6061 T6 | | 2 |
| 1 | | | FINAL ASSY. | ITEMS 2,3 | | | 1 |

| | | | | | | | |
|-------------------|--|---|--|-------------|--|---|--|
| INTERPRET DWG PER | | UNLESS OTHERWISE SPECIFIED DIM ARE IN INCHES TOLERANCES ON: | | DATE 5-1-73 | | LOCKHEED MISSILES & SPACE COMPANY INC. | |
| | | FRACTIONS = $\pm 1/16$ | | DWN JLD | | A SUBSIDIARY OF LOCKHEED AIRCRAFT CORPORATION | |
| | | DECIMALS = $\pm .03$ | | APVD | | BUNNYVALE, CALIFORNIA | |
| | | ANGLES = ± 2 DEG | | ENGRG | | BRACKET, DELIVERY DUCT | |
| | | | | CHER | | TCCS | |
| NEXT ASSY USED ON | | CONTR | | APVD | | SIZE CODE IDENT DRAWING NO | |
| APPLICATION | | CCA/CIFD | | APVD | | E CC-136 | |
| | | | | SCALE FULL | | SHEET 1 OF 1 | |

FOLDOUT FRAME

B-46

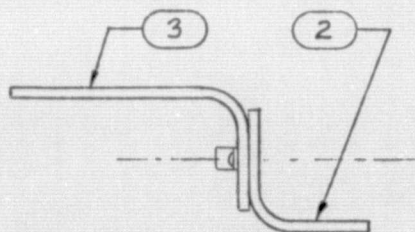
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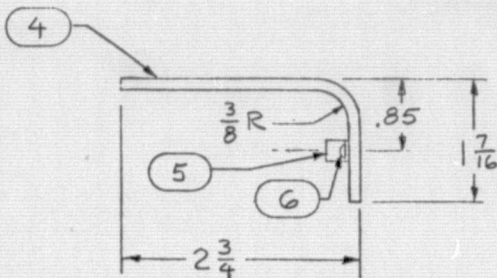
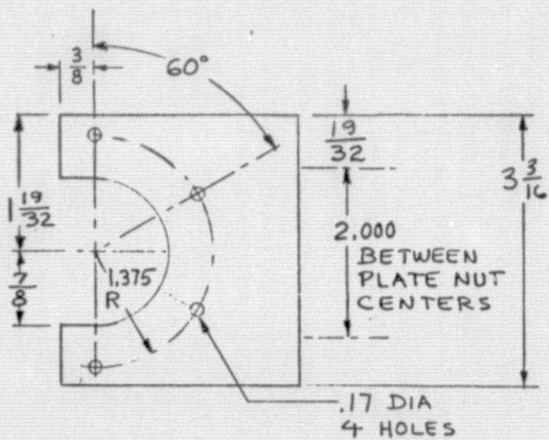
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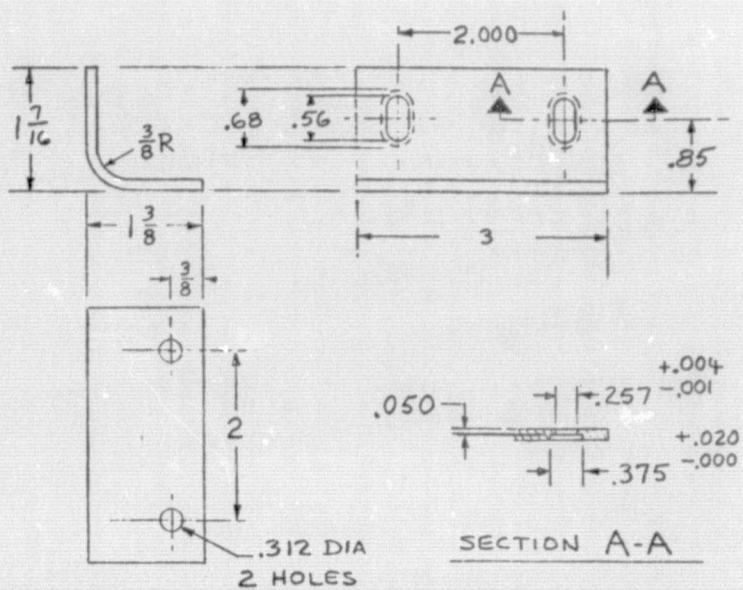
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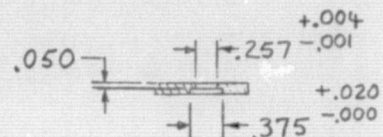
1 FINAL ASS'Y.



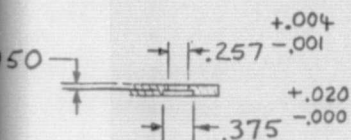
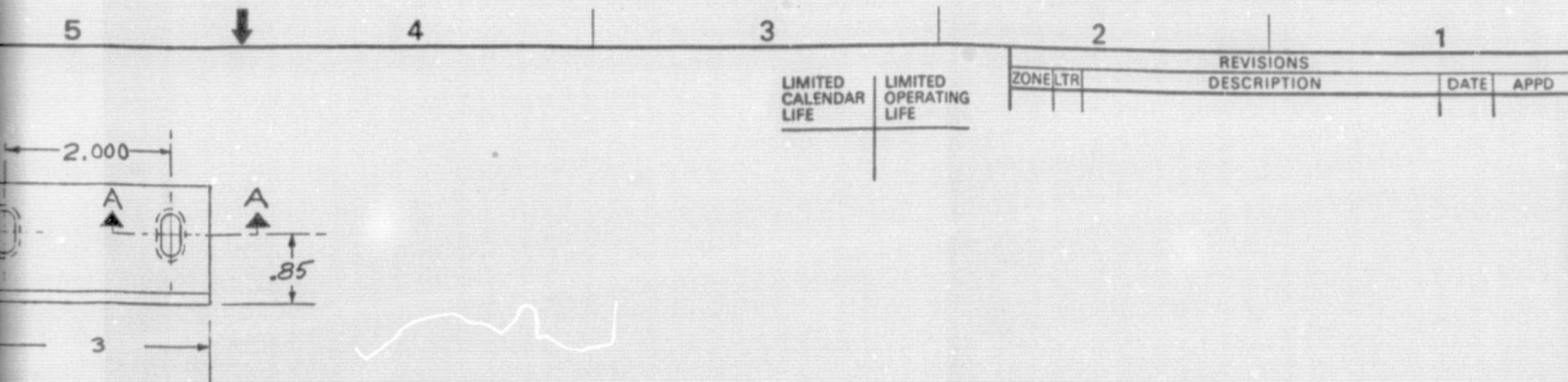
3 SUPPORT SUBASSY.



2 BASE



SECTION A-A



SECTION A-A

| | | | | | | | |
|----------|------------|-------------------------|-----------------------------|------------------------------|------------------------|------|----------|
| 4 | MS20426AD3 | FLUSH HEAD RIVET | ALUMINUM | | | 6 | |
| 2 | LS 8837-3 | PLATE NUT | | | | 5 | |
| 1 | | SUPPORT | .125 SHEET | 6061 T6 | | 4 | |
| 1 | | SUPPORT SUB | ITEMS 4,5,6 | | | 3 | |
| 1 | | BASE | .125 SHEET | 6061 T6 | | 2 | |
| 1 | | FINAL ASS'Y. | ITEMS 2,3 | | | 1 | |
| QTY REQD | CODE IDENT | PART OR IDENTIFYING NO. | NOMENCLATURE OR DESCRIPTION | MATERIAL DESCRIPTION OR NOTE | MATERIAL SPECIFICATION | ZONE | ITEM NO. |

PARTS LIST

| | | | | | | |
|-------------------------------|--|--|-------------|---|--------------|-----|
| INTERPRET DWG PER | | UNLESS OTHERWISE SPECIFIED DIM. ARE IN INCHES. TOLERANCES ON: FRACTIONS = $\pm 1/16$ DECIMALS: .X = $\pm .1$.XX = $\pm .03$.XXX = $\pm .010$ ANGLES = ± 2 DEG | DATE 8-2-73 | LOCKHEED MISSILES & SPACE COMPANY A GROUP DIVISION OF LOCKHEED AIRCRAFT CORPORATION SUNNYVALE, CALIFORNIA | | |
| | | | DR CW | BRACKET, BLOWER | | |
| | | | APPD | | | |
| | | | APPD | | | |
| | | | ENGRG | | | |
| | | | CHK | | | |
| | | | APPD | SIZE CODE IDENT | DRAWING NO. | REV |
| | | | APPD | D | CC-137 | |
| NEXT ASSY USED ON APPLICATION | | CONTR CCA/CEI | APPD | SCALE: FULL | SHEET 1 OF 1 | |

B-47

FOLDOUT FRAME

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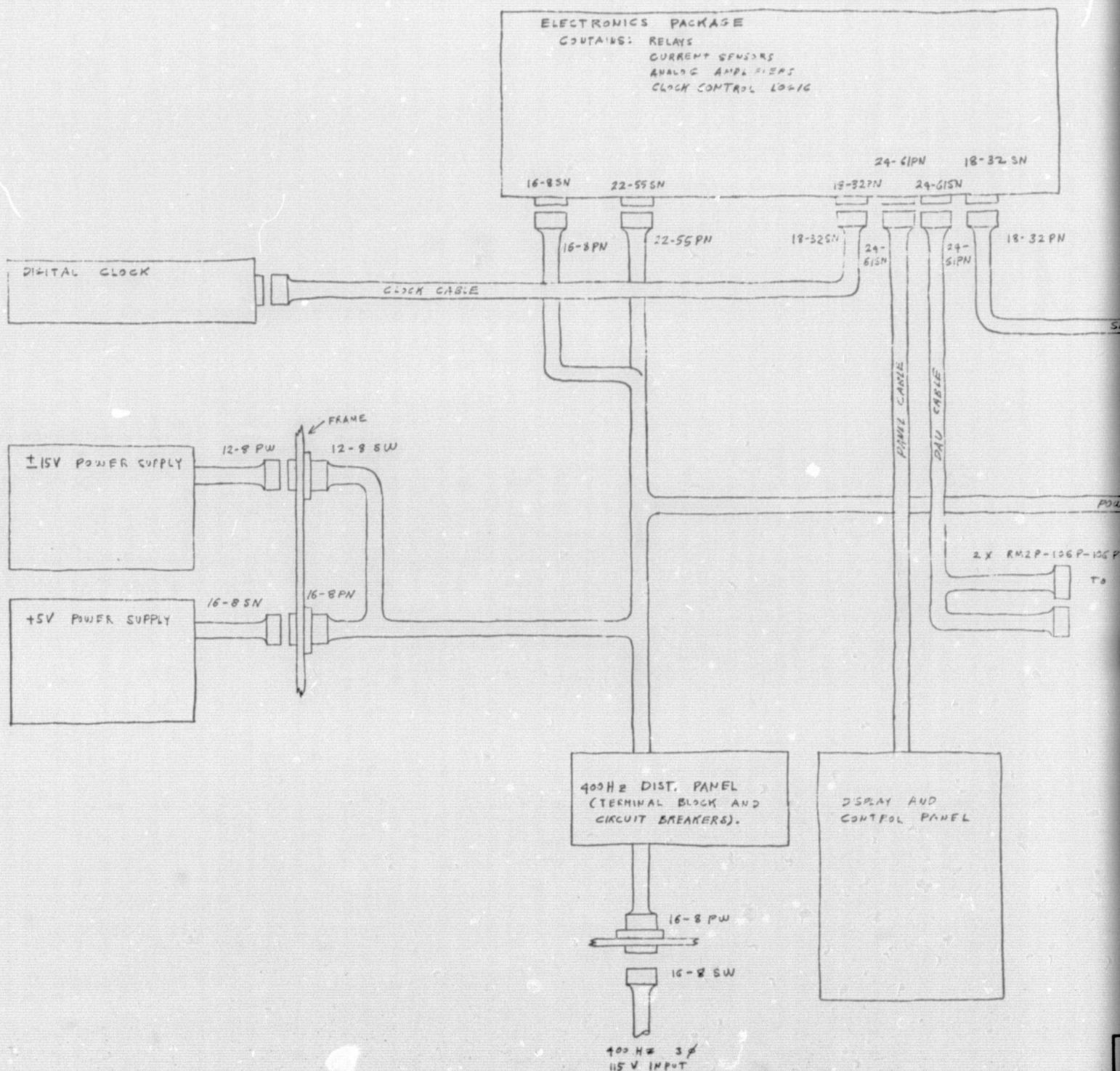
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FORM LMSC 13120-7 PRINTED ON LMSC CODE 9

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PARTS LIST

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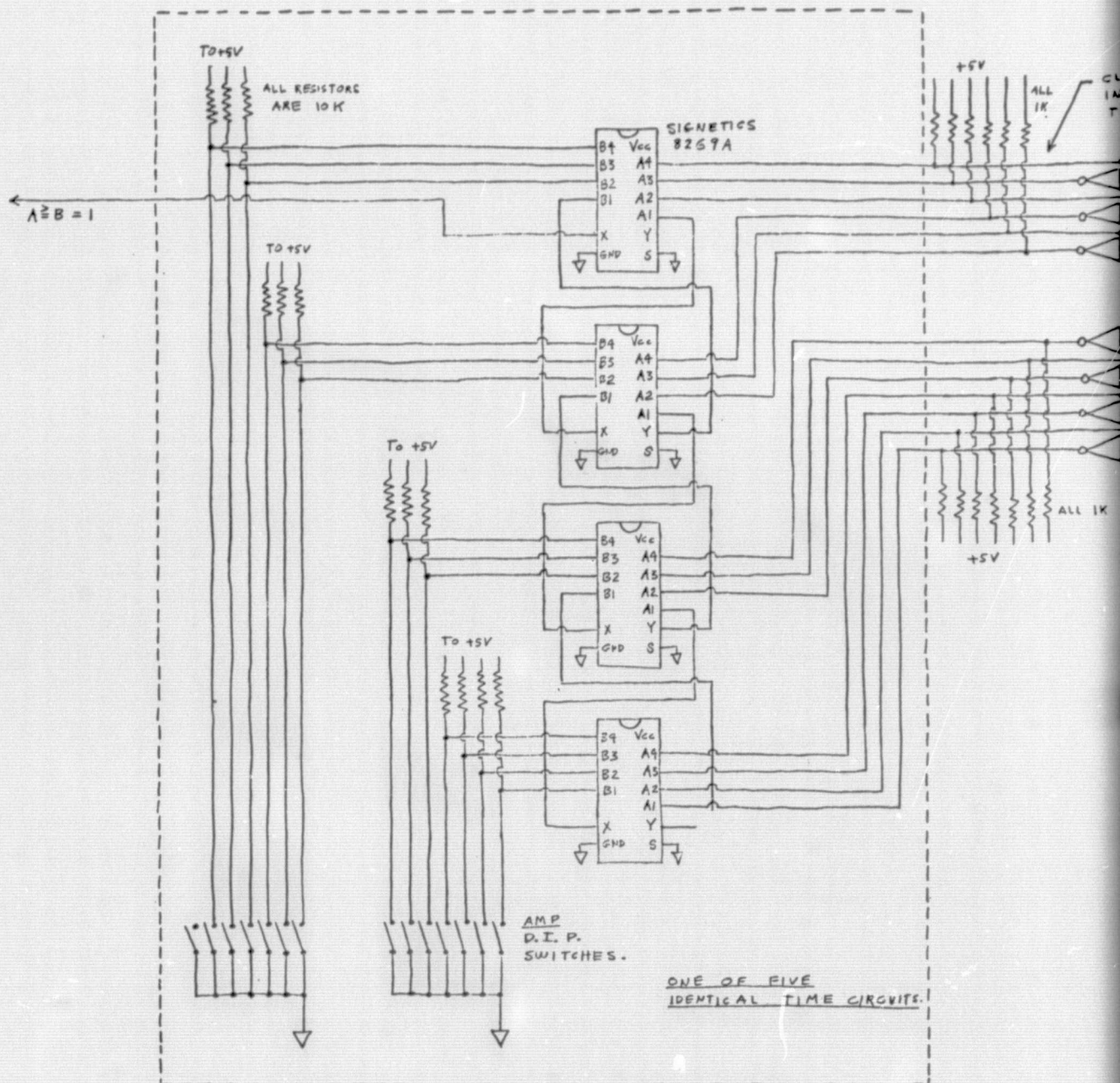
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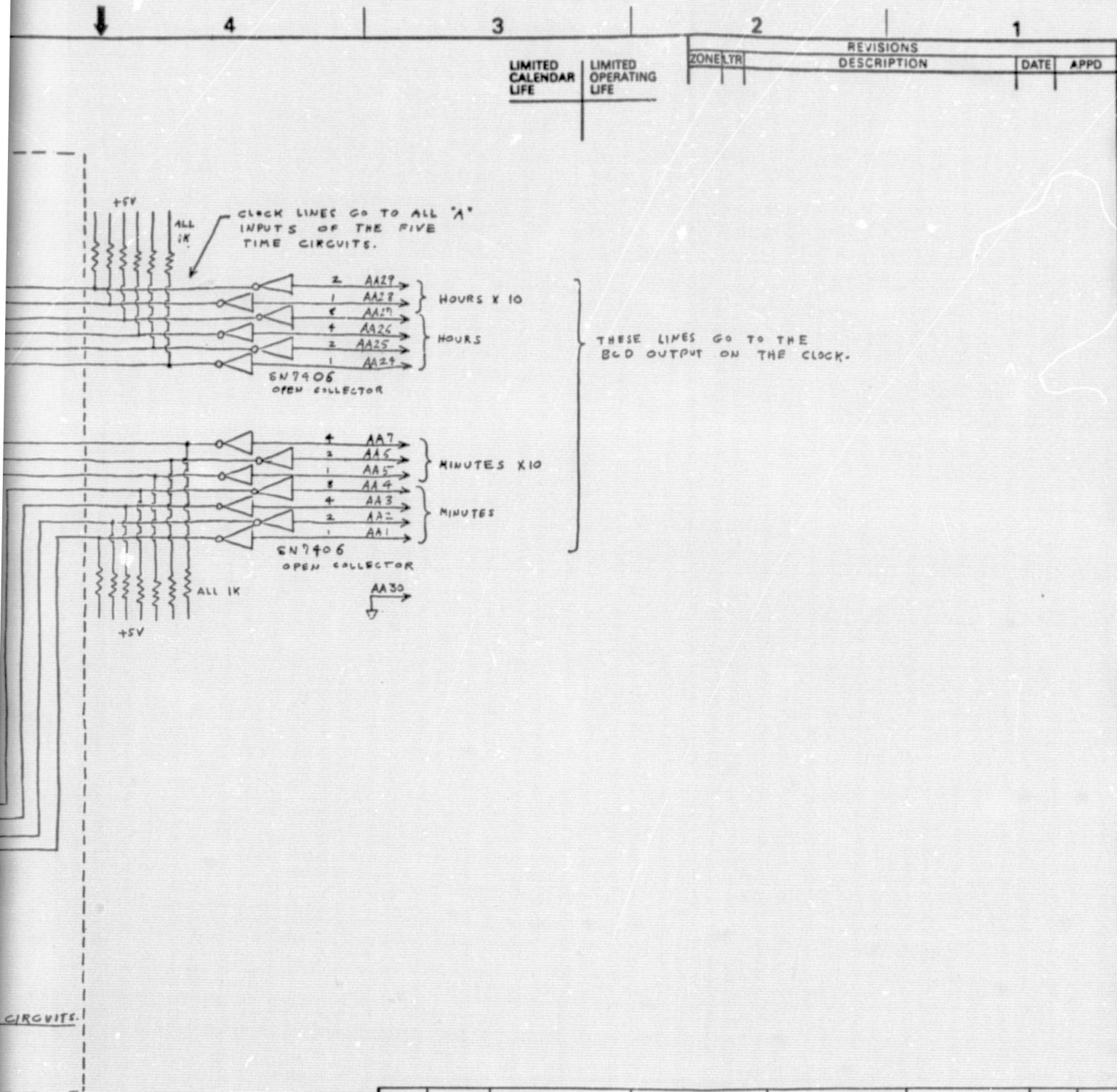
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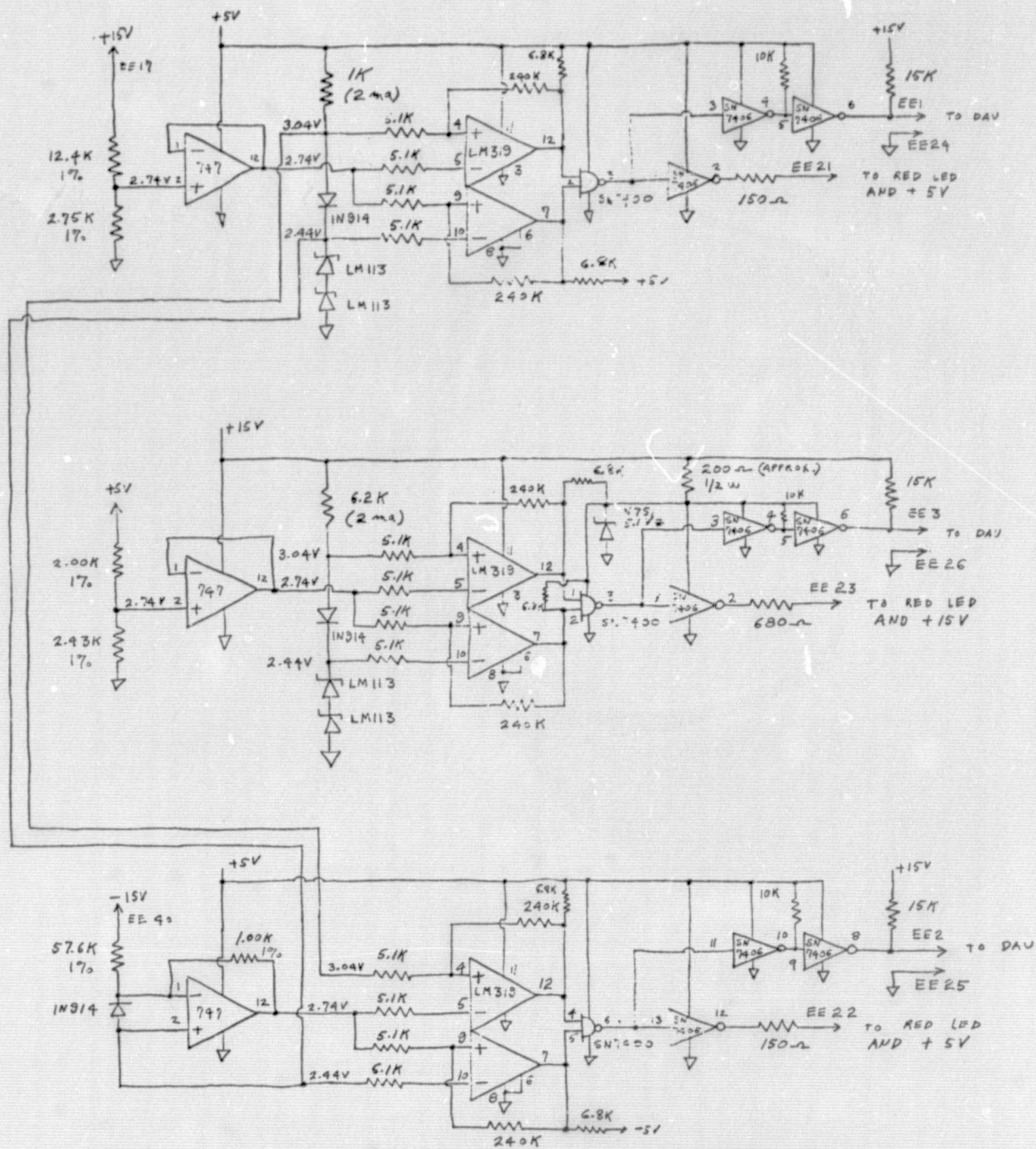
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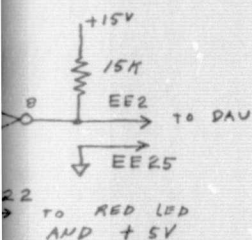
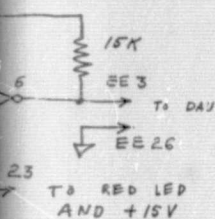
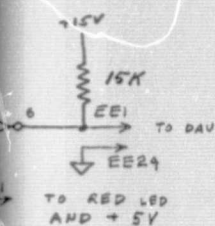
A





| QTY REQD | CODE IDENT | PART OR IDENTIFYING NO. | NOMENCLATURE OR DESCRIPTION | MATERIAL DESCRIPTION OR NOTE | MATERIAL SPECIFICATION | ZONE | ITEM NO. |
|------------|---|-------------------------|-----------------------------|---|------------------------|-------------|--------------|
| PARTS LIST | | | | | | | |
| DWG PER | UNLESS OTHERWISE SPECIFIED DIM. ARE IN INCHES. TOLERANCES ON: | | DATE 3/2/73 | LOCKHEED MISSILES & SPACE COMPANY | | | |
| | FRACTIONS = ± 1/16 | | DR R.S. Lucas | A GROUP DIVISION OF LOCKHEED AIRCRAFT CORPORATION | | | |
| | DECIMALS: .X = ± .1 | | APPD | SUNNYVALE, CALIFORNIA | | | |
| | .XX = ± .03 | | APPD | TCCS CONTROLLER (SHEET 1 OF 2) | | | |
| | .XXX = ± .010 | | ENGRG | | | | |
| | ANGLES = ± 2 DEG | | CHK | | | | |
| | CONTR | | APPD | SIZE | CODE IDENT | DRAWING NO. | REV |
| USED ON | CCA/CEI | | APPD | D | | CC-202 | |
| ATION | | | | SCALE | | | SHEET 1 OF 2 |





LIMITED
CALENDAR
LIFE

LIMITED
OPERATING
LIFE

| REVISIONS | | DATE | APPD |
|-----------|-------------|------|------|
| ZONE | DESCRIPTION | | |

| QTY REQD | CODE IDENT | PART OR IDENTIFYING NO. | NOMENCLATURE OR DESCRIPTION | MATERIAL DESCIP- TION OR NOTE | MATERIAL SPECIFICATION | ZONE | ITEM NO. |
|-------------------|---------------|---|--------------------------------|---|---|------|-------------|
| PARTS LIST | | | | | | | |
| INTERPRET DWG PER | | UNLESS OTHERWISE SPECIFIED DIM. ARE IN INCHES. TOLERANCES ON: | | LOCKHEED MISSILES & SPACE COMPANY A GROUP DIVISION OF LOCKHEED AIRCRAFT CORPORATION SUNNYVALE, CALIFORNIA | | | |
| | | FRACTIONS = $\pm 1/16$ | | DATE 3/2/73 | TCCS POWER SUPPLY MONITOR CIRCUITS | | |
| | | DECIMALS: .X = $\pm .1$ | | DR R. J. L. L. L. | | | |
| | | .XX = $\pm .03$ | | APPD | | | |
| | | .XXX = $\pm .010$ | | APPD | | | |
| | | ANGLES = ± 2 DEG | | ENGRG | SIZE CODE IDENT DRAWING NO. REV D CC-203 | | |
| | | CONTR | | CHK | | | |
| NEXT ASSY | USED ON | CONTR | | APPD | SCALE SHEET 1 OF 1 | | |
| APPLICATION | | CCA/CEI | | APPD | | | |

B-51

FOLDOUT FRAME

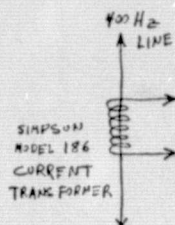
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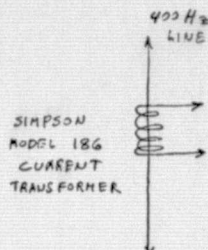
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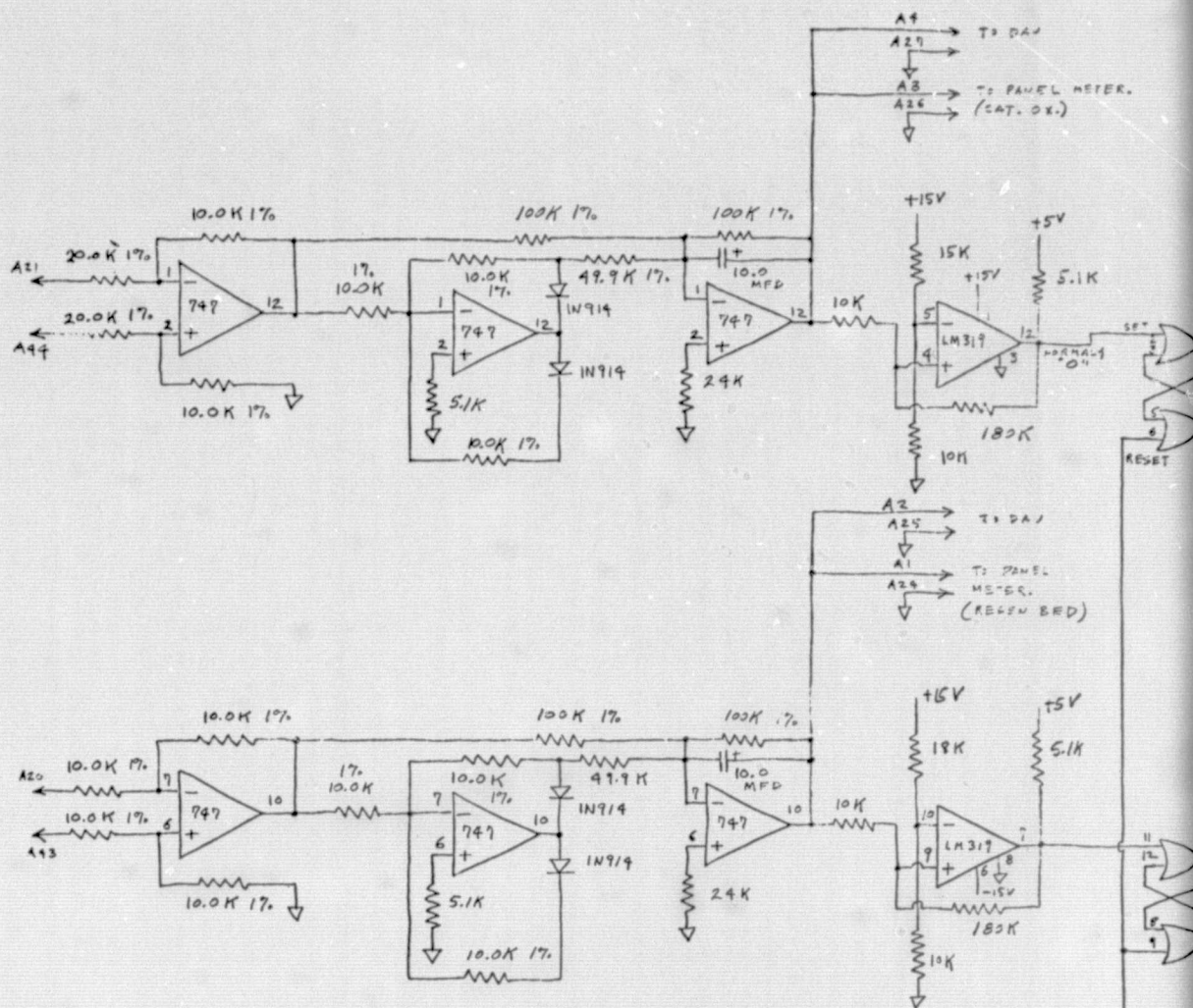
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B

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NOTE:

REMAINING CKTS FOR VALVES AND FANS
TO BE IDENTICAL, EXCEPT NO LINES TO DAJ
OR PANEL METERS. TEMP. CKTS SHOWN
ON SEPARATE DRAWING.

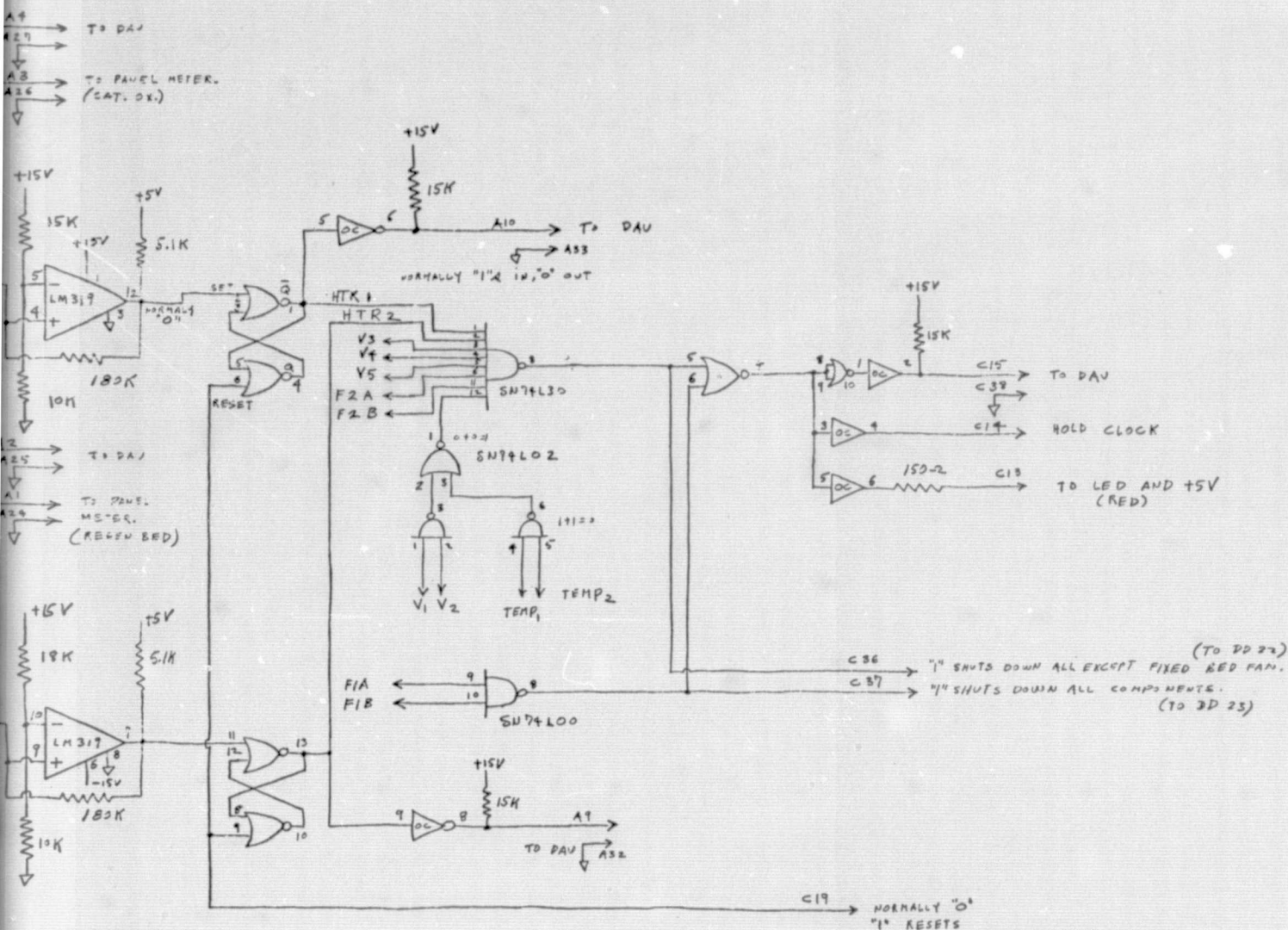
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OPERATING
LIFE

ZONE LTR

REVISIONS
DESCRIPTION

DATE APPD



VALVES AND FANS
PT NO LINES TO DAV
MP. CAPS SHOWN

| QTY REQD | CODE IDENT | PART OR IDENTIFYING NO. | NOMENCLATURE OR DESCRIPTION | MATERIAL DESCRI- TION OR NOTE | MATERIAL SPECIFICATION | ZONE | ITEM NO. |
|-------------|---------------|----------------------------|--------------------------------|----------------------------------|---------------------------|------|-------------|
|-------------|---------------|----------------------------|--------------------------------|----------------------------------|---------------------------|------|-------------|

PARTS LIST

| | | | | | | | |
|-------------------|---------|--|-------------|---|--------------|-----|--|
| INTERPRET DWG PER | | UNLESS OTHERWISE SPECIFIED DIM. ARE IN INCHES. TOLERANCES ON: FRACTIONS = ± 1/16 DECIMALS: .X = ± .1 .XX = ± .03 .XXX = ± .010 ANGLES = ± 2 DEG | DATE 3/2/78 | LOCKHEED MISSILES & SPACE COMPANY A GROUP DIVISION OF LOCKHEED AIRCRAFT CORPORATION SUNNYVALE, CALIFORNIA | | | |
| | | | DR R S Luce | TCCS OVER-CURRENT, OVER TEMP. SHUTDOWN CIRCUITS | | | |
| | | | APPD | | | | |
| | | | APPD | | | | |
| | | | ENGRG | | | | |
| | | | CHK | | | | |
| | | APPD | SIZE | CODE IDENT | DRAWING NO. | REV | |
| NEXT ASSY | USED ON | CONTR | D | | CC-204 | | |
| APPLICATION | | CCA/CEI | APPD | SCALE | SHEET 1 OF 1 | | |

B-52

FOLDOUT FRAME 2

8

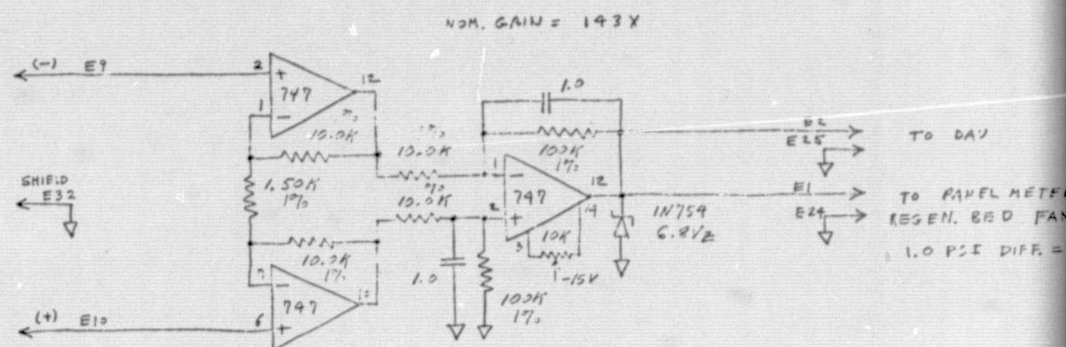
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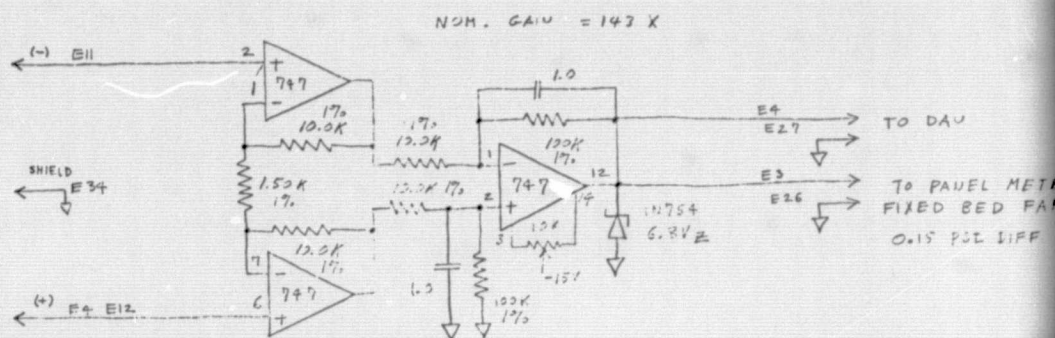
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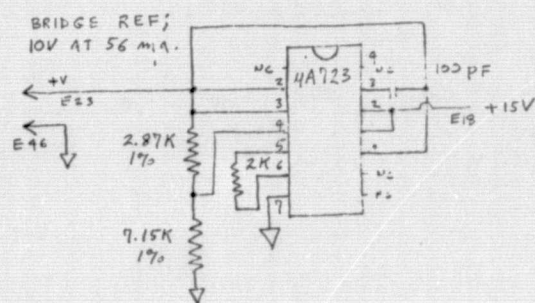
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ZONE/LTR

REVISIONS

DESCRIPTION

DATE

APPD

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A

E2
E25
TO DAV
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E1
E24
TO PANEL METER,
REGEN. BED FAN ΔP .
↓
1.0 PSI DIFF = 5.0V

E4
E27
TO DAV
↓
E3
E26
TO PANEL METER,
FIXED BED FAN ΔP .
↓
0.15 PSI DIFF = 5.0V

| QTY REQD | CODE IDENT | PART OR IDENTIFYING NO. | NOMENCLATURE OR DESCRIPTION | MATERIAL DESCIP- TION OR NOTE | MATERIAL SPECIFICATION | ZONE | ITEM NO. |
|-------------------|---------------|---|--------------------------------|---|----------------------------|------------|-------------|
| PARTS LIST | | | | | | | |
| INTERPRET DWG PER | | UNLESS OTHERWISE SPECIFIED DIM. ARE IN INCHES. TOLERANCES ON: | | LOCKHEED MISSILES & SPACE COMPANY A GROUP DIVISION OF LOCKHEED AIRCRAFT CORPORATION SUNNYVALE, CALIFORNIA | | | |
| | | FRACTIONS = $\pm 1/16$ | | DATE 5/2/73 | CCS ΔP CIRCUITS | | |
| | | DECIMALS: .X = $\pm .1$ | | DR 18.0000 | | | |
| | | .XX = $\pm .03$ | | APPD | | | |
| | | .XXX = $\pm .010$ | | APPD | | | |
| | | ANGLES = ± 2 DEG | | ENGRG | | | |
| | | CONTR | | CHK | | | |
| NEXT ASSY | | USED ON | | APPD | SIZE | CODE IDENT | DRAWING NO. |
| APPLICATION | | CCA/CEI | | APPD | D | | CC-205 |
| | | | | SCALE | SHEET 1 OF 1 | | |

B-53

FOLDOUT FRAME

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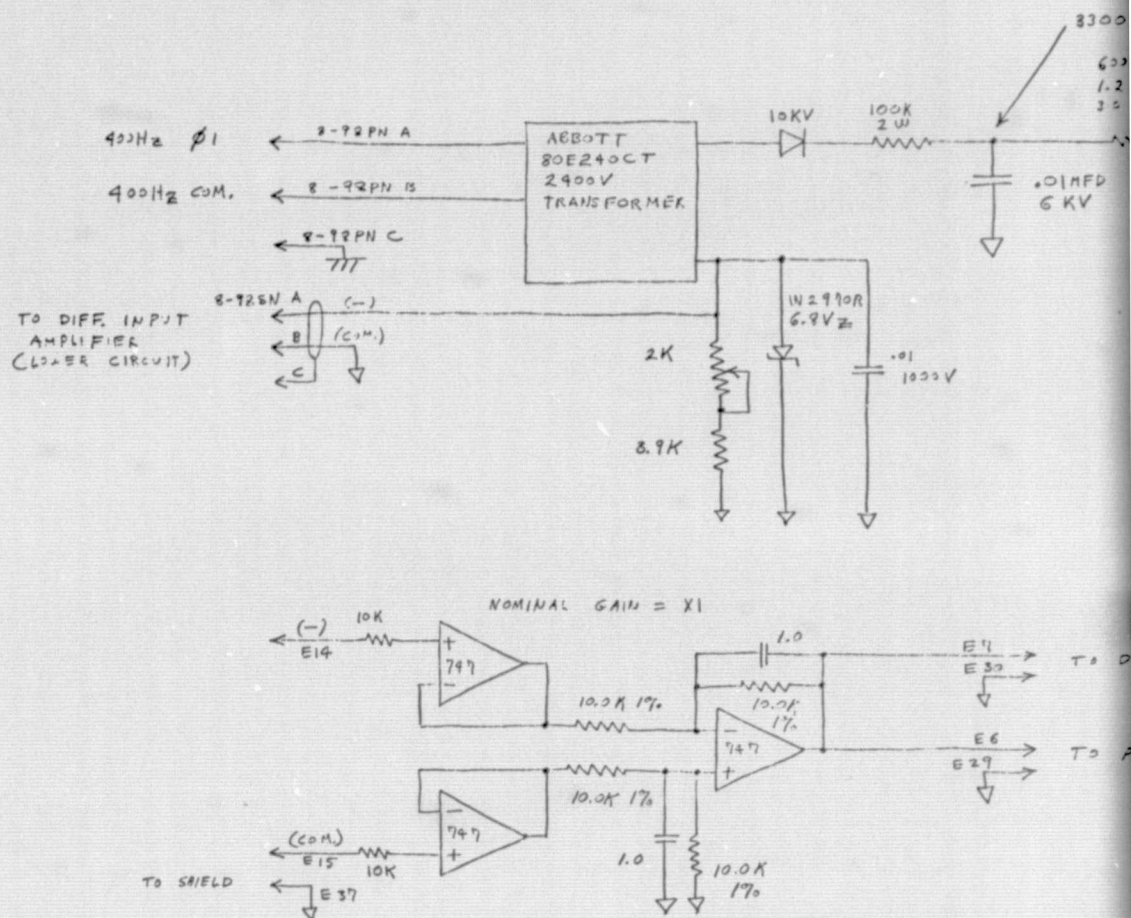
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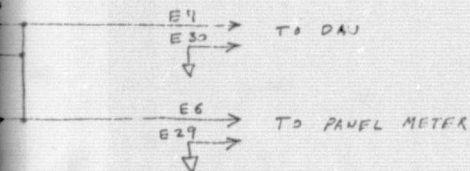
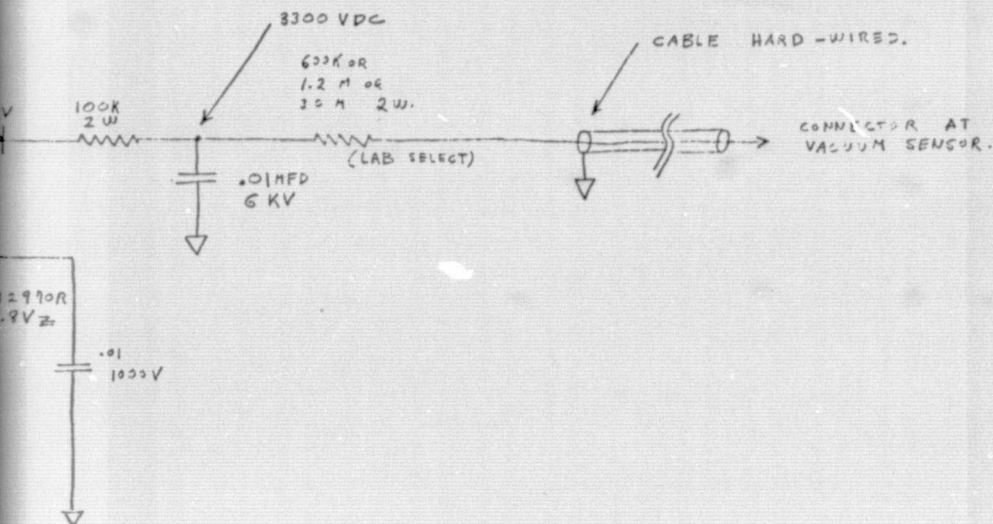
B

A



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OF POOR QUALITY

| | | | |
|---|---|---|---|
| 4 | 3 | 2 | 1 |
| <div style="display: flex; justify-content: space-around;"> <div style="border: 1px solid black; padding: 2px;">LIMITED CALENDAR LIFE</div> <div style="border: 1px solid black; padding: 2px;">LIMITED OPERATING LIFE</div> </div> | | <div style="display: flex; justify-content: space-between;"> <div style="border-bottom: 1px solid black; width: 100%;">REVISIONS</div> <div style="border-bottom: 1px solid black; width: 100%;">DESCRIPTION</div> <div style="border-bottom: 1px solid black; width: 100%;">DATE</div> <div style="border-bottom: 1px solid black; width: 100%;">APPD</div> </div> | |
| | | ZONELTR | |



| QTY REQD | CODE IDENT | PART OR IDENTIFYING NO. | NOMENCLATURE OR DESCRIPTION | MATERIAL DESCRIPTION OR NOTE | MATERIAL SPECIFICATION | ZONE | ITEM NO. |
|---|------------|-------------------------|---|------------------------------|------------------------|------|----------|
| PARTS LIST | | | | | | | |
| INTERPRET DWG PER UNLESS OTHERWISE SPECIFIED DIM. ARE IN INCHES. TOLERANCES ON: FRACTIONS = $\pm 1/16$ DECIMALS: .X = $\pm .1$.XX = $\pm .03$.XXX = $\pm .010$ ANGLES = ± 2 DEG | | | LOCKHEED MISSILES & SPACE COMPANY A GROUP DIVISION OF LOCKHEED AIRCRAFT CORPORATION SUNNYVALE, CALIFORNIA | | | | |
| | | | TCCS VACUUM SENSOR CIRCUITS | | | | |
| NEXT ASSY | | | DATE 5/2/73 | | SIZE CODE IDENT | | |
| USED ON | | | DR H. L. Jones | | D CC-206 | | |
| APPLICATION | | | APPD | | DRAWING NO. | | |
| CCA/CEI | | | ENGRG | | SHEET 1 OF 1 | | |
| | | | CHK | | | | |
| | | | APPD | | | | |
| | | | APPD | | | | |

FOLDOUT FRAME

B-54

2

8

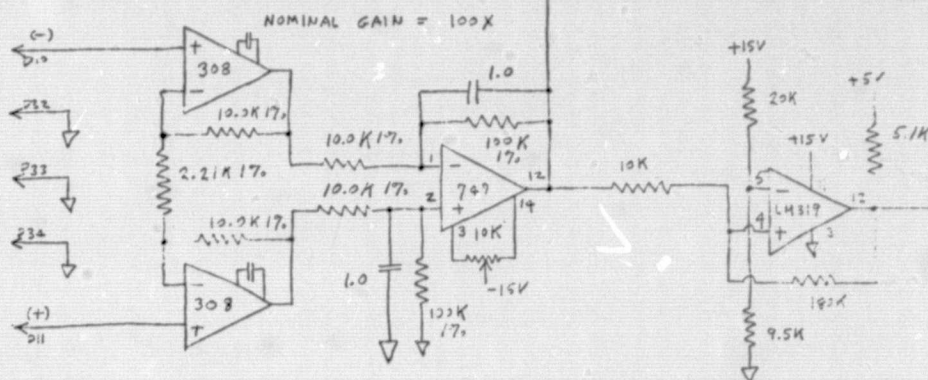
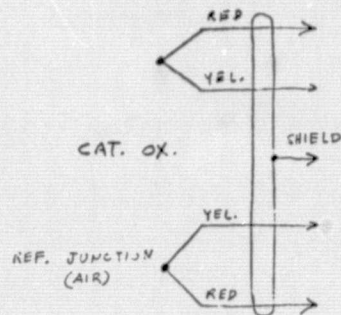
7

6

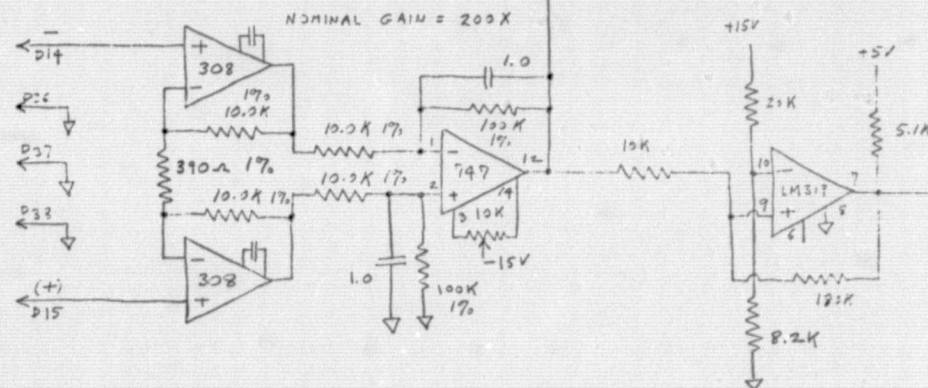
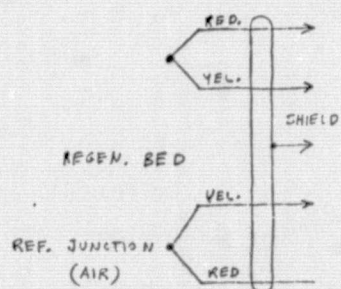
5

4

D

CHROMEL/ALUMEL
THERMOCOUPLES

C



B

A

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8

7

6

5

D

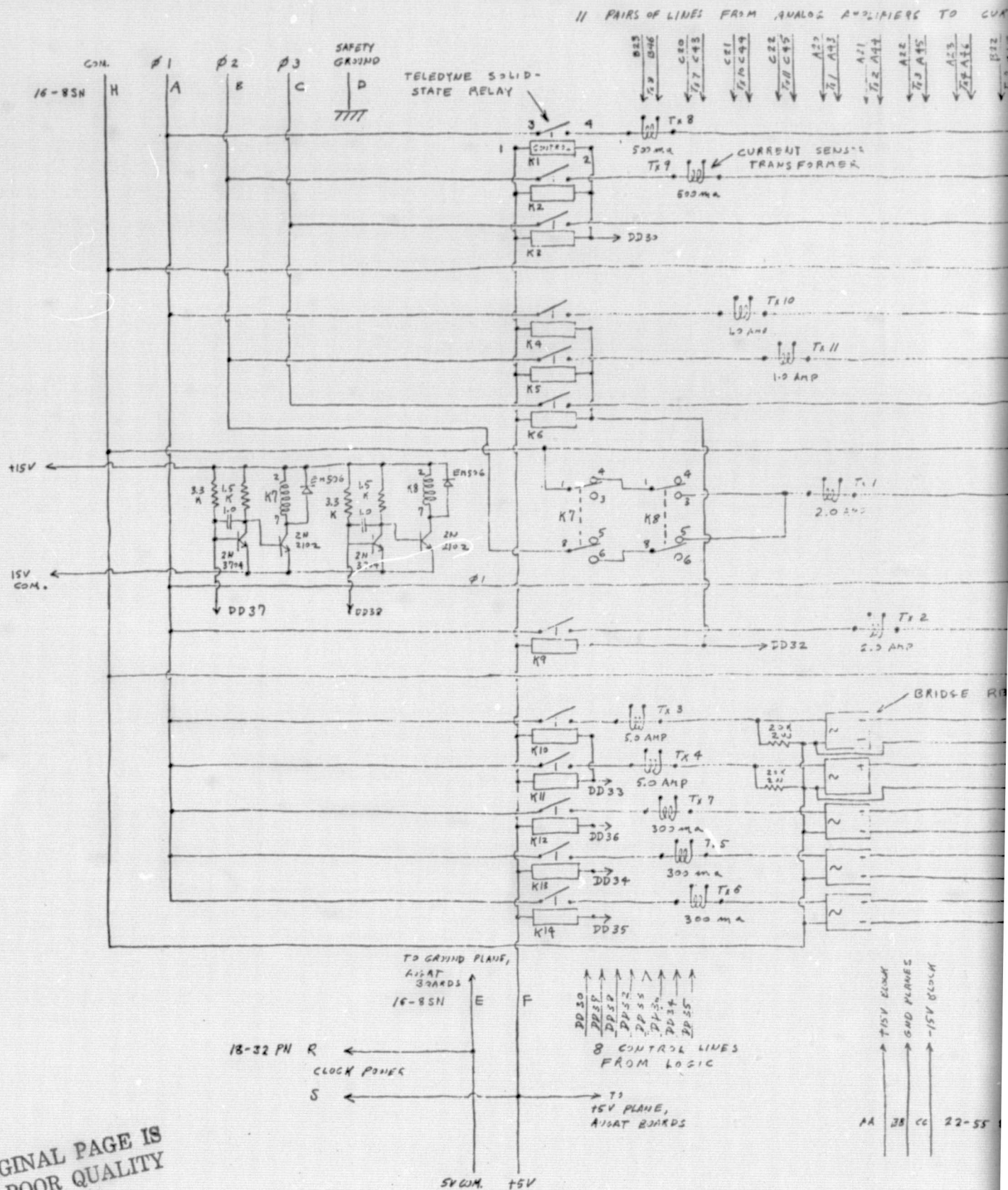
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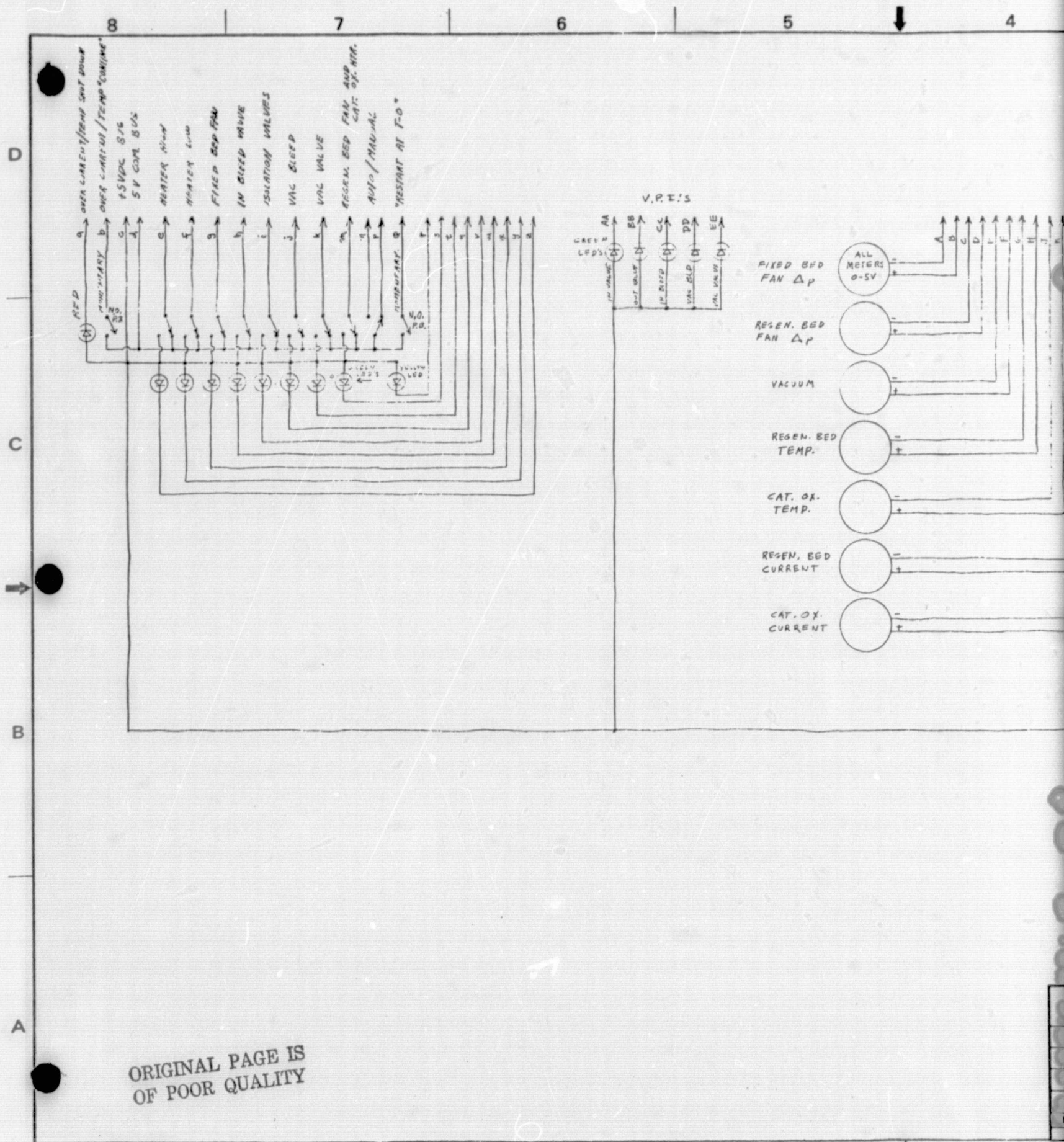
B

A

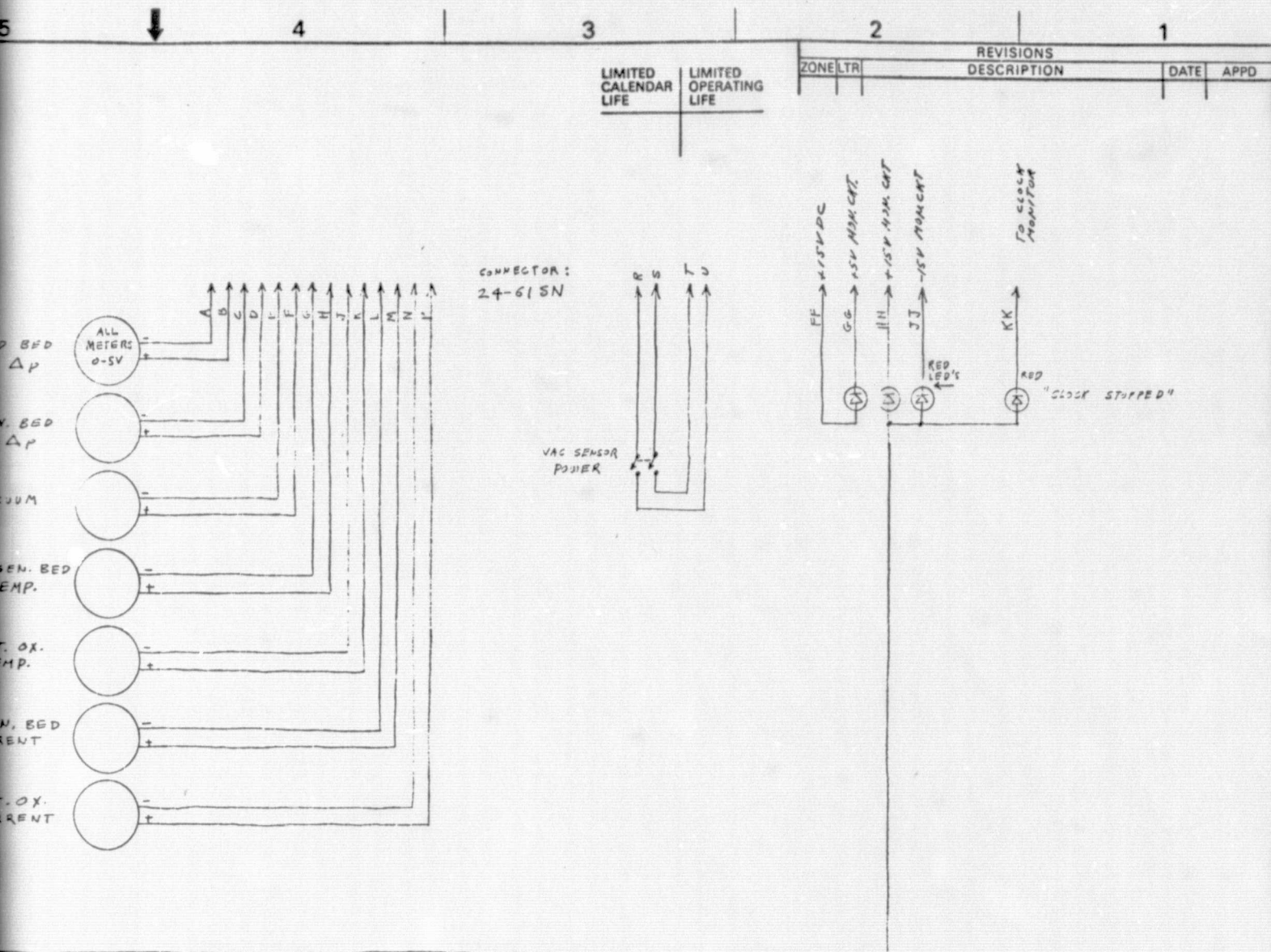
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FOLDOUT FRAME





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| QTY REQD | CODE IDENT | PART OR IDENTIFYING NO. | NOMENCLATURE OR DESCRIPTION | MATERIAL DESCRIPTION OR NOTE | MATERIAL SPECIFICATION | ZONE | ITEM NO. |
|---|------------|-------------------------|---|------------------------------|------------------------|------|----------|
| PARTS LIST | | | | | | | |
| INTERPRET DWG PER | | | LOCKHEED MISSILES & SPACE COMPANY A GROUP DIVISION OF LOCKHEED AIRCRAFT CORPORATION SUNNYVALE, CALIFORNIA | | | | |
| UNLESS OTHERWISE SPECIFIED DIM. ARE IN INCHES. TOLERANCES ON: | | | TCCS CONTROL PANEL CIRCUITS | | | | |
| FRACTIONS = $\pm 1/16$ | | | DATE 3/2/73 | | | | |
| DECIMALS: .X = $\pm .1$ | | | DR S. G. L. | | | | |
| .XX = $\pm .03$ | | | APPD | | | | |
| .XXX = $\pm .010$ | | | APPD | | | | |
| ANGLES = ± 2 DEG | | | ENGRG | | | | |
| CONTR | | | CHK | | | | |
| NEXT ASSY USED ON | | | APPD | | | | |
| APPLICATION | | | APPD | | | | |
| SIZE CODE IDENT DRAWING NO. REV | | | | D CC-203 | | | |
| SCALE | | | | SHEET 1 OF 1 | | | |

FOLDOUT FRAME 2

B-57

NOTES:

1. MAKE FROM THICKNESS
2. DIMENSION FROM DR
3. ENGRAVE TO BE 3
4. DOTTED POSITION
5. THE 3/8 MOUNTING
6. IRIDITE PAINT. DO
7. ENGRAVED HOLES A LESS TH

CUT OUT. CORNERS TO HAVE 1/8 RADIUS.

DRILL THROUGH.

TRACE CONTAMINANT CONTROL SYSTEM

CONTROL CLOCK.

FIXED BED FAN

ON—CMD
OFF

MODE

MAN ① AUTO

POWER DROPOUT
SHUT DOWN ①

START AT 70 ①

CLOCK STOPPED ①

OVER CURRENT
OVER TEMP
SHUT DOWN ①

CONTINUE ①

VACUUM SENSOR
POWER ON ① OFF

P. S. MONITOR
+15 VDC ①

-15 VDC

CAT OX INTR -
REGEN BED FAN

ON—CMD
OFF

ISOLATION VALVES
IN OUT
CLOSE—CMD—VPI—VPI ① ①
OPEN

VACUUM BLEED
OPEN—CMD—VPI ①
CLOSE

VACUUM VALVE
OPEN—CMD—VPI ①
CLOSE

REGEN BED HTR
LOW HIGH
ON—CMD ON—CMD ① ①
OFF OFF

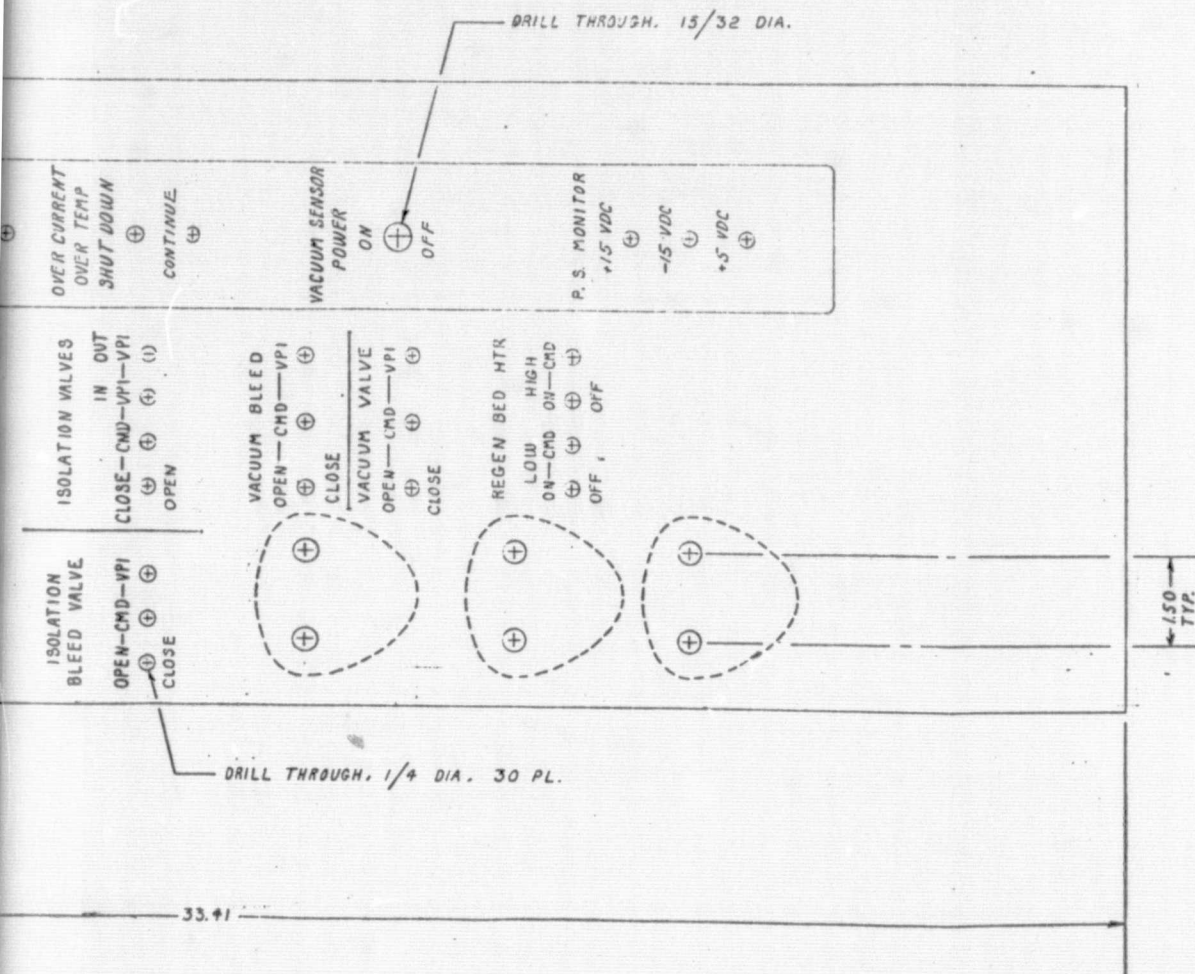
DRILL THROUGH. 3/8 DIA. 14 PL.

DRILL THROUGH. 1/4 DIA. 30 PL.

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NOTES:

1. MAKE FROM 6061-T6 ALUMINUM. .125 INCH THICKNESS.
2. DIMENSIONS NOT SHOWN MAY BE SCALED FROM DRAWING.
3. ENGRAVE APPROX. AS SHOWN. LETTERS TO BE 3/16 INCH HIGH.
4. DOTTED LINES ARE TO SHOW METER POSITIONS ONLY, DO NOT ENGRAVE.
5. THE 3/8 INCH DIA. HOLES FOR METER MOUNTING ARE TO BE ON 1.5 INCH CENTERS.
6. IRIDITE PER LAC 0438-030000. DO NOT PAINT. DO NOT FILL ENGRAVING.
7. ENGRAVED LETTERS TO CLEAR 1/4 INCH HOLES AND 15/32 INCH HOLE BY NOT LESS THAN 1/8 INCH.



| QTY REQD | CODE IDENT | PART OR IDENTIFYING NO | NOMENCLATURE OR DESCRIPTION | ALUMINUM | 6061 T-6 | MATERIAL SPECIFICATION | ZONE | ITEM NO |
|--|------------|------------------------|---|--------------------|----------|------------------------|------|---------|
| PARTS LIST | | | | | | | | |
| INTERPRET DIM PER | | | UNLESS OTHERWISE SPECIFIED DIM ARE IN INCHES TOLERANCES ON: | DATE 4/12/73 | | | | |
| | | | FRACTIONS = ± 1/16 | OWN R.S. Lma | | | | |
| | | | DECIMALS = ± .003 | APVD | | | | |
| | | | ANGLES = ± 2 DEG | APVD | | | | |
| | | | CONTR | APVD | | | | |
| NEXT ASSY USED ON APPLICATION | | | CCA/CI/PO | APVD | | | | |
| LOCKHEED MISSILES & SPACE COMPANY, INC. A SUBSIDIARY OF LOCKHEED AIRCRAFT CORPORATION BUNNVALE, CALIFORNIA | | | | TCCS CONTROL PANEL | | | | |
| SIZE CODE IDENT | | | | DRAWING NO | | REV | | |
| E | | | | CC-211 | | - | | |
| SCALE (ALL) | | | | SHEET 1 OF 1 | | | | |